

The New
FARMER'S
RAPID
CALCULATOR



AND
Veterinary

Hand
-Book

Mr. Joe L. Lang
Sublimity
Oregon!

L X Love

Joe & Jean

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Oregon

WRITE IT DOWN

THE NEW
FARMERS'
RAPID
CALCULATOR

A N D

Veterinary Hand Book

By J. T. THOMPSON

THERE are three departments to this little book. 1st: Interest Tables and Methods of Calculation, Weights, Measures, Dimensions, Etc. 2nd: A Complete Veterinary Hand Book, giving symptoms and treatment of diseases of horses, cattle, sheep and swine. 3rd: A Farm Record, being a simple system of tabulated pages in which can be entered daily the receipts and expenditures of every branch of the farm.

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TO THE FARMER:

The design of this little book is to give in a convenient and compact form all that is necessary for conducting the business of the farm in a systematic manner and without the aid of a regular bookkeeper. The Veterinary Hand Book is the work of several well known Stock Doctors and Specialists and will be found very valuable. Another valuable feature is the Crop Record, which will show what crop made the most money; you have also a legal record of all the business of the farm.

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HOW TO CALCULATE SALARIES AND WAGES.

The computation of wages or salaries for short periods is vexatious to many. The subjoined table will show at a glance the wages per day, week and month of the sums given. To find the monthly, weekly or daily wages for annual wages not given in the table, find the rate for figures that are given, and add, subtract or multiply proportionately.

Per Year.	Per Month.	Per Week.	Per Day.	Per Year.	Per Month.	Per Week.	Per Day.
\$	\$	\$	\$	\$	\$	\$	\$
20 is	1.67	.38	.05	280	23.33	5.37	.77
25	2.08	.48	.07	285	23.75	5.47	.78
30	2.50	.58	.08	290	24.17	5.56	.79
35	2.92	.67	.10	295	24.58	5.66	.81
40	3.33	.77	.11	300	25.00	5.75	.82
45	3.75	.86	.12	310	25.83	5.95	.85
50	4.17	.96	.14	320	26.67	6.14	.88
55	4.58	1.06	.15	325	27.08	6.23	.89
60	5.00	1.15	.16	330	27.50	6.33	.90
65	5.42	1.25	.18	340	28.33	6.52	.93
70	5.83	1.34	.19	350	29.17	6.71	.96
75	6.25	1.44	.21	360	30.00	6.90	.99
80	6.67	1.56	.22	370	30.83	7.10	1.01
85	7.08	1.63	.23	375	31.25	7.19	1.03
90	7.50	1.73	.25	380	31.67	7.29	1.04
95	7.92	1.82	.26	390	32.50	7.48	1.07
100	8.33	1.92	.27	400	33.33	7.67	1.10
105	8.75	2.01	.29	425	35.42	8.15	1.16
110	9.17	2.11	.30	450	37.50	8.63	1.23
115	9.58	2.21	.32	475	39.58	9.11	1.30
120	10.00	2.30	.33	500	41.67	9.59	1.37
125	10.42	2.40	.34	525	43.75	10.07	1.44
130	10.83	2.49	.36	550	45.83	10.55	1.51
135	11.25	2.59	.37	575	47.92	11.03	1.58
140	11.67	2.69	.38	600	50.00	11.51	1.64
145	12.08	2.78	.40	625	52.08	11.99	1.71
150	12.50	2.88	.41	650	54.17	12.47	1.78
155	12.92	2.97	.42	675	56.25	12.95	1.85
160	13.33	3.07	.44	700	58.33	13.42	1.92
165	13.75	3.16	.45	725	60.42	13.90	1.99
170	14.17	3.26	.47	750	62.50	14.38	2.05
175	14.58	3.36	.48	775	64.58	14.86	2.12
180	15.00	3.45	.49	800	66.67	15.34	2.19
185	15.42	3.55	.51	825	68.75	15.82	2.26
190	15.83	3.64	.52	850	70.83	16.30	2.33
195	16.25	3.74	.53	875	72.92	16.78	2.40
200	16.57	3.84	.55	900	75.00	17.26	2.47
205	17.08	3.93	.56	925	77.08	17.74	2.53
210	17.50	4.03	.58	950	79.17	18.22	2.60
215	17.92	4.12	.59	975	81.25	18.70	2.67
220	18.33	4.22	.60	1000	83.33	19.18	2.74
225	18.75	4.34	.62	1050	87.50	20.14	2.88
230	19.17	4.41	.63	1100	91.67	21.10	3.01
235	19.58	4.51	.64	1150	95.83	22.06	3.15
240	20.00	4.60	.66	1200	100.00	23.01	3.29
245	20.42	4.70	.67	1250	104.17	23.29	3.42
250	20.83	4.79	.69	1300	108.33	24.93	3.56
255	21.25	4.89	.70	1350	112.50	25.89	3.70
260	21.67	4.99	.71	1400	116.67	26.85	3.84
265	22.08	5.08	.73	1450	120.84	27.80	3.98
270	22.50	5.18	.74	1500	125.00	28.77	4.11
275	22.92	5.27	.75	1600	133.35	30.68	4.38

WHEAT BEANS, PEAS, POTATOES, CLOVER SEED, etc., 60 lbs. to bushel.

Table showing weight in bushels and lbs. and price of same.
All on the same line.

Example: How many bushels in a load of Wheat weighing 1880
lbs., and what is price of same at 96c. per bushel?

Answer: Look down line for 1880. Next column shows 31
bushels 20 lbs. Add together figures in columns 3c. (twice), 40c
and 50c, and total is price of load. Thus: .94 twice = 1.88. 12.53,
15.67 = Total \$30.08.

Lbs.	Bu	lbs	1/2c	3/4c	1c	2c	3c	5c	10c	20c	30c	40c	50c
2		2	..	..	..	..	..	..	..	..	.01	.01	.01
4		4	..	..	..	..	..	..	..	..	.02	.02	.03
6		6	..	..	..	..	..	..	.01	.02	.03	.04	.04
8		8	..	..	..	..	..	..	.01	.02	.04	.06	.06
10		10	..	..	..	..	..	..	.02	.03	.05	.07	.08
20		20	..	..	..	..	.01	.01	.03	.07	.10	.13	.17
30		30	..	..	..	.01	.01	.02	.05	.10	.15	.20	.25
40		40	..	..	..	.01	.02	.03	.06	.13	.20	.27	.33
50		50	..	..	.01	.01	.02	.04	.08	.17	.25	.33	.42
60	1	00	..	.01	.01	.02	.03	.05	.10	.20	.30	.40	.50
70	1	10	..	.01	.01	.02	.03	.05	.11	.23	.35	.47	.58
80	1	20	..	.01	.01	.02	.04	.07	.13	.27	.40	.53	.67
90	1	30	.01	.01	.01	.03	.04	.08	.15	.30	.45	.60	.75
100	1	40	.01	.02	.02	.03	.05	.08	.16	.33	.50	.67	.83
500	8	20	.04	.06	.08	.16	.25	.41	.83	1.67	2.50	3.40	4.17
1000	16	40	.08	.12	.17	.33	.50	.82	1.66	3.34	5.00	6.67	8.34
1010	16	50	.08	.12	.17	.33	.50	.83	1.68	3.37	5.05	6.73	8.42
1020	17	00	.08	.12	.17	.34	.51	.85	1.70	3.40	5.10	6.80	8.50
1030	17	10	.08	.12	.17	.34	.51	.85	1.72	3.43	5.15	6.87	8.58
1040	17	20	.08	.12	.17	.34	.52	.86	1.73	3.47	5.20	6.93	8.67
1050	17	30	.08	.12	.17	.35	.52	.87	1.75	3.50	5.25	7.00	8.75
1060	17	40	.08	.13	.18	.35	.53	.87	1.76	3.53	5.30	7.07	8.83
1070	17	50	.08	.13	.18	.35	.53	.88	1.78	3.57	5.35	7.13	8.92
1030	18	00	.09	.13	.18	.36	.54	.90	1.80	3.60	5.40	7.20	9.00
1090	18	10	.09	.13	.18	.36	.54	.90	1.82	3.63	5.45	7.27	9.08
1100	18	20	.09	.13	.18	.36	.55	.91	1.83	3.67	5.50	7.33	9.17
1110	18	30	.09	.13	.18	.37	.55	.92	1.85	3.70	5.55	7.40	9.25
1120	18	40	.09	.14	.19	.37	.56	.92	1.86	3.73	5.60	7.47	9.33
1130	18	50	.09	.14	.19	.37	.56	.93	1.88	3.77	5.65	7.53	9.42
1140	19	00	.09	.14	.19	.38	.57	.95	1.90	3.80	5.70	7.60	9.50
1150	19	10	.09	.14	.19	.38	.57	.95	1.92	3.83	5.75	7.67	9.58
1160	19	20	.09	.14	.19	.38	.58	.96	1.93	3.87	5.80	7.73	9.67
1170	19	30	.10	.14	.19	.39	.58	.96	1.95	3.90	5.85	7.80	9.75
1180	19	40	.10	.14	.20	.39	.59	.97	1.96	3.93	5.90	7.87	9.83
1190	19	50	.10	.14	.20	.39	.59	.98	1.98	3.97	5.95	7.93	9.92
1200	20	00	.10	.15	.20	.40	.60	1.00	2.00	4.00	6.00	8.00	10.00
1210	20	10	.10	.15	.20	.40	.60	1.00	2.02	4.03	6.05	8.07	10.08
1220	20	20	.10	.15	.20	.40	.61	1.01	2.03	4.07	6.10	8.13	10.17
1230	20	30	.10	.15	.20	.41	.61	1.02	2.05	4.10	6.15	8.20	10.25
1240	20	40	.10	.15	.20	.41	.62	1.02	2.06	4.13	6.20	8.27	10.33
1250	20	50	.10	.15	.21	.41	.62	1.03	2.08	4.17	6.25	8.33	10.42
1260	21	00	.10	.16	.21	.42	.63	1.05	2.10	4.20	6.30	8.40	10.50
1270	21	10	.10	.16	.21	.42	.63	1.05	2.12	4.23	6.35	8.47	10.58
1230	21	20	.10	.16	.21	.42	.64	1.06	2.13	4.27	6.40	8.53	10.67
1290	21	30	.10	.16	.21	.43	.64	1.07	2.15	4.30	6.45	8.60	10.75
1300	21	40	.11	.16	.21	.43	.65	1.07	2.16	4.33	6.50	8.67	10.83
1310	21	50	.11	.16	.22	.43	.65	1.08	2.18	4.37	6.55	8.73	10.92
1320	22	00	.11	.17	.22	.44	.66	1.10	2.20	4.40	6.60	8.80	11.00
1330	22	10	.11	.17	.22	.44	.66	1.10	2.22	4.43	6.65	8.87	11.08
1340	22	20	.11	.17	.22	.44	.67	1.11	2.23	4.47	6.70	8.93	11.17
1350	22	30	.11	.17	.22	.45	.67	1.12	2.25	4.50	6.75	9.00	11.25
1360	22	40	.11	.17	.22	.45	.68	1.12	2.26	4.53	6.80	9.07	11.33
1370	22	50	.11	.17	.23	.45	.68	1.13	2.28	4.57	6.85	9.13	11.42
1330	23	00	.11	.17	.23	.46	.69	1.15	2.30	4.60	6.90	9.20	11.50
1390	23	10	.11	.17	.23	.46	.69	1.15	2.32	4.63	6.95	9.27	11.58
1400	23	20	.11	.17	.23	.46	.70	1.16	2.33	4.67	7.00	9.33	11.67
1410	23	30	.11	.17	.23	.47	.70	1.17	2.35	4.70	7.05	9.40	11.75

WHEAT, BEANS, PEAS, POTATOES, ETC. (Continued)

Lbs.	Bu	lbs	$\frac{1}{2}c$	$\frac{3}{4}c$	1c	2c	3c	5c	10c	20c	30c	40c	50c
1420	23	40	.12	.17	.23	.47	.71	1.17	2.36	4.73	7.10	9.47	11.83
1430	23	50	.12	.18	.24	.47	.71	1.18	2.38	4.77	7.15	9.53	11.92
1440	24	00	.12	.18	.24	.48	.72	1.20	2.40	4.80	7.20	9.60	12.00
1450	24	10	.12	.18	.24	.48	.72	1.20	2.42	4.83	7.25	9.67	12.08
1460	24	20	.12	.18	.24	.48	.73	1.21	2.43	4.87	7.30	9.73	12.17
1470	24	30	.12	.18	.24	.49	.73	1.22	2.45	4.90	7.35	9.80	12.25
1480	24	40	.12	.18	.24	.49	.74	1.22	2.46	4.93	7.40	9.87	12.33
1490	24	50	.12	.18	.25	.49	.74	1.23	2.48	4.97	7.45	9.93	12.42
1500	25	00	.12	.19	.25	.50	.75	1.25	2.50	5.00	7.50	10.00	12.50
1510	25	10	.12	.19	.25	.50	.75	1.25	2.52	5.03	7.55	10.07	12.58
1520	25	20	.12	.19	.25	.50	.76	1.26	2.53	5.07	7.60	10.13	12.67
1530	25	30	.12	.19	.25	.51	.76	1.27	2.55	5.10	7.65	10.20	12.75
1540	25	40	.13	.19	.25	.51	.77	1.27	2.56	5.13	7.70	10.27	12.83
1550	25	50	.13	.19	.26	.51	.77	1.28	2.58	5.17	7.75	10.33	12.92
1560	26	00	.13	.20	.26	.52	.78	1.30	2.60	5.20	7.80	10.40	13.00
1570	26	10	.13	.20	.26	.52	.79	1.31	2.63	5.27	7.90	10.53	13.17
1600	26	40	.13	.20	.26	.53	.80	1.32	2.66	5.33	8.00	10.67	13.33
1620	27	00	.13	.20	.27	.54	.81	1.35	2.70	5.40	8.10	10.80	13.50
1640	27	20	.13	.20	.27	.54	.82	1.36	2.73	5.47	8.20	10.93	13.67
1660	27	40	.14	.20	.27	.55	.83	1.37	2.76	5.53	8.30	11.07	13.83
1680	28	00	.14	.21	.28	.56	.84	1.40	2.80	5.60	8.40	11.20	14.00
1700	28	20	.14	.21	.28	.56	.85	1.41	2.83	5.67	8.50	11.33	14.17
1720	28	40	.14	.21	.28	.57	.86	1.42	2.86	5.73	8.60	11.47	14.33
1740	29	00	.14	.22	.29	.58	.87	1.45	2.90	5.80	8.70	11.60	14.50
1760	29	20	.14	.22	.29	.58	.88	1.46	2.93	5.87	8.80	11.73	14.67
1780	29	40	.15	.22	.29	.59	.89	1.47	2.96	5.93	8.90	11.87	14.83
1800	30	00	.15	.22	.30	.60	.90	1.50	3.00	6.00	9.00	12.00	15.00
1820	30	20	.15	.23	.30	.60	.91	1.51	3.03	6.07	9.10	12.13	15.17
1840	30	40	.15	.23	.30	.61	.92	1.52	3.06	6.13	9.20	12.27	15.33
1860	31	00	.15	.23	.31	.62	.93	1.55	3.10	6.20	9.30	12.40	15.50
1880	31	20	.15	.23	.31	.62	.94	1.56	3.13	6.27	9.40	12.53	15.67
1900	31	40	.16	.23	.31	.63	.95	1.57	3.16	6.33	9.50	12.67	15.83
1920	32	00	.16	.24	.32	.64	.96	1.60	3.20	6.40	9.60	12.80	16.00
1940	32	20	.16	.24	.32	.64	.97	1.61	3.23	6.47	9.70	12.93	16.17
1960	32	40	.16	.24	.32	.65	.98	1.62	3.26	6.53	9.80	13.07	16.33
1980	33	00	.16	.25	.33	.66	.99	1.65	3.30	6.60	9.90	13.20	16.50
2000	33	20	.16	.25	.33	.66	1.00	1.66	3.33	6.67	10.00	13.33	16.67
2100	35	00	.18	.26	.35	.70	1.05	1.75	3.50	7.00	10.50	14.00	17.50
2200	36	40	.18	.29	.36	.73	1.10	1.83	3.66	7.33	11.00	14.67	18.33
2300	38	20	.19	.29	.38	.76	1.15	1.91	3.83	7.67	11.50	15.33	19.17
2400	40	00	.20	.30	.40	.80	1.20	2.00	4.00	8.00	12.00	16.00	20.00
2500	41	40	.21	.32	.41	.83	1.25	2.08	4.16	8.33	12.50	16.67	20.83
2600	43	20	.22	.33	.43	.86	1.30	2.16	4.33	8.67	13.00	17.33	21.67
2700	45	00	.22	.34	.45	.90	1.35	2.25	4.50	9.00	13.50	18.00	22.50
2800	46	40	.23	.35	.46	.93	1.40	2.33	4.66	9.33	14.00	18.67	23.33
2900	48	20	.24	.36	.48	.96	1.45	2.41	4.83	9.67	14.50	19.33	24.17
3000	50	00	.25	.38	.50	1.00	1.50	2.50	5.00	10.00	15.00	20.00	25.00
3100	51	40	.26	.39	.51	1.03	1.55	2.58	5.16	10.33	15.50	20.67	25.83
3200	53	20	.27	.40	.53	1.06	1.60	2.66	5.33	10.67	16.00	21.33	26.67
3300	55	00	.27	.41	.55	1.10	1.65	2.75	5.50	11.00	16.50	22.00	27.50
3400	56	40	.28	.42	.56	1.13	1.70	2.83	5.66	11.33	17.00	22.67	28.33
3500	58	20	.29	.44	.58	1.16	1.75	2.91	5.83	11.67	17.50	23.33	29.17
3600	60	00	.30	.45	.60	1.20	1.80	3.00	6.00	12.00	18.00	24.00	30.00
3700	61	40	.31	.46	.61	1.23	1.85	3.08	6.16	12.33	18.50	24.67	30.83
3800	63	20	.32	.48	.63	1.26	1.90	3.16	6.33	12.67	19.00	25.33	31.67
3900	65	00	.32	.49	.65	1.30	1.95	3.25	6.50	13.00	19.50	26.00	32.50
4000	66	40	.33	.50	.66	1.33	2.00	3.33	6.66	13.33	20.00	26.67	33.33
4100	68	20	.34	.51	.68	1.36	2.05	3.41	6.83	13.67	20.50	27.33	34.17
4200	70	00	.35	.52	.70	1.40	2.10	3.50	7.00	14.00	21.00	28.00	35.00
4300	71	40	.36	.53	.71	1.43	2.15	3.58	7.16	14.33	21.50	28.67	35.83
4400	73	20	.37	.54	.73	1.46	2.20	3.68	7.33	14.67	22.00	29.33	36.67
4500	75	00	.37	.56	.75	1.50	2.25	3.75	7.50	15.00	22.50	30.00	37.50
4600	76	40	.38	.57	.76	1.53	2.30	3.83	7.66	15.33	23.00	30.67	38.33
4700	78	20	.39	.59	.78	1.56	2.35	3.91	7.83	15.67	23.50	31.33	39.17
4800	80	00	.40	.60	.80	1.60	2.40	4.00	8.00	16.00	24.00	32.00	40.00
4900	81	40	.41	.61	.81	1.63	2.45	4.08	8.16	16.33	24.50	32.67	40.83
5000	83	20	.42	.62	.83	1.66	2.50	4.16	8.33	16.67	25.00	33.33	41.67

OATS — 32 lbs. to bushel.

Table showing weight of load in bushels and lbs., and price of same. All on same line.

Example: How many bushels in a load of Oats weighing 1610 lbs., and what is the price at 45 $\frac{1}{2}$ c. per bushel?

Answer: Look down table for 1610, next column shows 50 bushels and 10 lbs. Add together amounts under $\frac{1}{2}$, 5, and 40 cents, and total is price. Thus: .38, 2.52, 20.13 = \$23.03. Proceed in like manner for any price and weight.

Lbs.	Bu	lbs	$\frac{1}{2}$ c	$\frac{3}{4}$ c	1c	2c	3c	5c	10c	20c	30c	40c	50c
2		2	..	..	..	..	..	..	..	.01	.02	.02	.03
4		4	..	..	..	..	..	..	.01	.02	.03	.05	.06
6		6	..	..	..	..	..	.01	.02	.03	.05	.08	.10
8		8	..	..	..	..	..	.01	.02	.05	.08	.10	.12
10		10	..	..	..	..	.01	.02	.03	.07	.10	.13	.15
20		20	..	..	..	.01	.02	.03	.06	.13	.19	.25	.31
30		30	..	..	.01	.02	.03	.05	.09	.19	.28	.38	.46
40	1	08	..	.01	.01	.02	.04	.06	.12	.25	.38	.50	.62
50	1	18	.01	.01	.01	.03	.04	.08	.15	.31	.48	.63	.77
60	1	28	.01	.02	.02	.03	.05	.10	.18	.37	.57	.75	.93
70	2	06	.01	.02	.02	.04	.06	.10	.22	.43	.66	.88	1.10
80	2	16	.01	.02	.02	.05	.07	.12	.25	.49	.76	1.01	1.25
90	2	26	.01	.03	.03	.05	.08	.14	.28	.55	.85	1.13	1.41
100	3	04	.02	.03	.03	.06	.09	.15	.31	.62	.94	1.25	1.56
500	15	20	.08	.12	.16	.31	.47	.79	1.56	3.12	4.69	6.25	7.81
1000	31	08	.15	.23	.31	.62	.92	1.56	3.12	6.25	9.38	12.50	15.62
1010	31	18	.16	.23	.32	.63	.94	1.58	3.15	6.32	9.48	12.63	15.77
1020	31	28	.16	.23	.32	.64	.95	1.60	3.18	6.38	9.57	12.75	15.93
1030	32	06	.16	.24	.32	.64	.96	1.61	3.22	6.43	9.65	12.88	16.10
1040	32	16	.16	.24	.33	.65	.97	1.63	3.25	6.50	9.75	13.00	16.26
1050	32	26	.16	.25	.33	.66	.98	1.64	3.28	6.56	9.84	13.13	16.41
1060	33	04	.16	.25	.33	.66	.99	1.65	3.31	6.62	9.93	13.25	16.56
1070	33	14	.17	.25	.33	.67	1.00	1.67	3.34	6.69	10.03	13.38	16.71
1080	33	24	.17	.25	.34	.68	1.01	1.69	3.37	6.75	10.12	13.50	16.87
1090	34	02	.17	.26	.34	.68	1.02	1.70	3.40	6.81	10.22	13.62	17.03
1100	34	12	.17	.26	.34	.69	1.03	1.72	3.44	6.88	10.32	13.75	17.19
1110	34	22	.17	.26	.35	.69	1.04	1.73	3.47	6.94	10.41	13.87	17.34
1120	35	00	.17	.26	.35	.70	1.05	1.75	3.50	7.00	10.50	14.00	17.50
1130	35	10	.17	.26	.35	.70	1.06	1.77	3.53	7.07	10.60	14.13	17.65
1140	35	20	.18	.27	.36	.71	1.07	1.78	3.56	7.13	10.69	14.25	17.81
1150	35	30	.18	.27	.36	.71	1.08	1.80	3.59	7.19	10.78	14.38	17.96
1160	36	08	.18	.27	.36	.72	1.08	1.81	3.62	7.25	10.88	14.50	18.12
1170	36	18	.18	.27	.37	.73	1.09	1.83	3.65	7.32	10.97	14.63	18.27
1180	36	28	.18	.27	.37	.74	1.10	1.84	3.68	7.38	11.06	14.75	18.43
1190	37	06	.18	.28	.37	.74	1.11	1.86	3.72	7.43	11.15	14.88	18.60
1200	37	16	.19	.28	.38	.75	1.12	1.87	3.75	7.50	11.25	15.00	18.75
1210	37	26	.19	.28	.38	.76	1.13	1.89	3.78	7.56	11.34	15.13	18.91
1220	38	04	.19	.28	.38	.76	1.14	1.90	3.81	7.62	11.43	15.25	19.06
1230	38	14	.19	.28	.38	.77	1.15	1.92	3.84	7.69	11.53	15.38	19.21
1240	38	24	.19	.29	.39	.78	1.16	1.94	3.87	7.75	11.62	15.50	19.37
1250	39	02	.19	.29	.39	.78	1.17	1.95	3.90	7.81	11.72	15.62	19.53
1260	39	12	.19	.29	.39	.79	1.18	1.98	3.94	7.87	11.81	15.75	19.68
1270	39	22	.20	.29	.40	.79	1.19	1.99	3.97	7.94	11.91	15.87	19.84
1280	40	00	.20	.30	.40	.80	1.20	2.00	4.00	8.00	12.00	16.00	20.00
1290	40	10	.20	.30	.40	.80	1.21	2.02	4.03	8.07	12.10	16.13	20.15
1300	40	20	.20	.30	.41	.81	1.22	2.03	4.06	8.13	12.19	16.25	20.31
1310	40	30	.20	.30	.41	.81	1.23	2.05	4.09	8.19	12.28	16.38	20.46
1320	41	08	.20	.31	.41	.82	1.23	2.06	4.12	8.25	12.38	16.50	20.62
1330	41	18	.21	.31	.42	.83	1.24	2.08	4.15	8.32	12.47	16.63	20.77
1340	41	28	.21	.31	.42	.84	1.25	2.10	4.18	8.38	12.57	16.75	20.93
1350	42	06	.21	.31	.42	.84	1.26	2.11	4.22	8.44	12.65	16.88	21.10
1360	42	16	.21	.32	.43	.85	1.27	2.13	4.25	8.50	12.75	17.00	21.25
1370	42	26	.21	.32	.43	.86	1.28	2.14	4.28	8.56	12.84	17.13	21.41
1380	43	04	.21	.32	.43	.86	1.29	2.15	4.31	8.62	12.93	17.25	21.56
1390	43	14	.21	.32	.43	.87	1.30	2.17	4.34	8.69	13.03	17.38	21.71
1400	43	24	.22	.33	.44	.88	1.31	2.19	4.37	8.75	13.12	17.50	21.87
1410	44	02	.22	.33	.44	.88	1.32	2.20	4.40	8.81	13.22	17.62	22.03
1420	44	12	.22	.33	.44	.89	1.33	2.22	4.44	8.88	13.32	17.75	22.19
1430	44	22	.22	.33	.45	.89	1.34	2.23	4.47	8.94	13.41	17.87	22.34

OATS. (Continued)

Lbs.	Bu	lbs	$\frac{1}{2}c$	$\frac{3}{4}c$	1c	2c	3c	5c	10c	20c	30c	40c	50c
1440	45	00	.22	.34	.45	.90	1.35	2.25	4.50	9.00	13.50	18.00	22.50
1450	45	10	.22	.34	.45	.90	1.36	2.27	4.53	9.07	13.60	18.13	22.65
1460	45	20	.23	.34	.46	.91	1.37	2.28	4.56	9.13	13.69	18.25	22.81
1470	45	30	.23	.34	.46	.92	1.38	2.30	4.59	9.19	13.78	18.38	22.96
1480	46	08	.23	.35	.46	.92	1.39	2.31	4.62	9.25	13.88	18.50	23.12
1490	46	18	.23	.35	.47	.93	1.40	2.33	4.65	9.32	13.98	18.63	23.27
1500	46	28	.23	.35	.47	.94	1.41	2.34	4.68	9.38	14.07	18.75	23.43
1510	47	06	.23	.35	.47	.94	1.41	2.36	4.72	9.43	14.15	18.88	23.60
1520	47	16	.24	.36	.48	.95	1.42	2.37	4.75	9.50	14.25	19.00	23.75
1530	47	26	.24	.36	.48	.96	1.43	2.39	4.78	9.56	14.34	19.13	23.91
1540	48	04	.24	.36	.48	.96	1.44	2.40	4.81	9.62	14.43	19.25	24.06
1550	48	14	.24	.36	.48	.97	1.45	2.42	4.84	9.69	14.53	19.38	24.21
1560	48	24	.24	.37	.49	.98	1.46	2.44	4.87	9.75	14.62	19.50	24.37
1570	49	02	.24	.37	.49	.98	1.47	2.45	4.90	9.81	14.72	19.62	24.53
1580	49	12	.24	.37	.49	.99	1.48	2.47	4.94	9.88	14.82	19.75	24.68
1590	49	22	.25	.37	.50	.99	1.49	2.48	4.97	9.94	14.91	19.87	24.84
1600	50	00	.25	.38	.50	1.00	1.50	2.50	5.00	10.00	15.00	20.00	25.00
1620	50	20	.25	.38	.51	1.01	1.52	2.53	5.06	10.13	15.19	20.25	25.31
1640	51	08	.25	.39	.51	1.02	1.54	2.56	5.12	10.25	15.38	20.50	25.62
1660	51	28	.26	.39	.52	1.04	1.56	2.60	5.18	10.38	15.56	20.75	25.93
1680	52	16	.26	.39	.53	1.05	1.57	2.62	5.25	10.50	15.75	21.00	26.25
1700	53	04	.26	.40	.53	1.06	1.59	2.65	5.31	10.62	15.93	21.25	26.56
1720	53	24	.27	.40	.54	1.08	1.61	2.69	5.37	10.75	16.12	21.50	26.87
1740	54	12	.27	.41	.54	1.09	1.63	2.72	5.44	10.88	16.31	21.75	27.18
1760	55	00	.27	.41	.55	1.10	1.65	2.75	5.50	11.00	16.50	22.00	27.50
1780	55	20	.28	.42	.56	1.11	1.67	2.78	5.56	11.13	16.69	22.25	27.81
1800	56	08	.28	.42	.56	1.12	1.69	2.81	5.62	11.25	16.88	22.50	28.12
1820	56	28	.28	.42	.57	1.14	1.71	2.85	5.68	11.38	17.07	22.75	28.43
1840	57	16	.29	.43	.58	1.15	1.72	2.88	5.75	11.50	17.25	23.00	28.75
1860	58	04	.29	.43	.58	1.16	1.74	2.90	5.81	11.62	17.43	23.25	29.06
1880	58	24	.29	.44	.59	1.18	1.76	2.94	5.87	11.75	17.62	23.50	29.37
1900	59	12	.29	.44	.59	1.19	1.78	2.97	5.94	11.88	17.81	23.75	29.68
1920	60	00	.30	.45	.60	1.20	1.80	3.00	6.00	12.00	18.00	24.00	30.00
1940	60	20	.30	.45	.61	1.21	1.82	3.03	6.06	12.13	18.19	24.25	30.31
1960	61	08	.30	.46	.61	1.22	1.84	3.06	6.12	12.25	18.38	24.50	30.62
1980	61	28	.31	.47	.62	1.24	1.86	3.09	6.19	12.38	18.57	24.75	30.93
2000	62	16	.31	.47	.63	1.25	1.87	3.13	6.25	12.50	18.75	25.01	31.25
2100	65	20	.33	.49	.66	1.31	1.97	3.28	6.56	13.13	19.69	26.25	32.81
2200	68	24	.34	.52	.69	1.38	2.06	3.44	6.87	13.75	20.62	27.50	34.37
2300	71	28	.36	.54	.72	1.44	2.16	3.60	7.19	14.38	21.57	28.75	35.93
2400	75	00	.37	.56	.75	1.50	2.25	3.75	7.50	15.00	22.50	30.00	37.50
2500	78	04	.39	.58	.78	1.56	2.34	3.90	7.81	15.62	23.43	31.25	39.06
2600	81	08	.40	.61	.81	1.62	2.44	4.06	8.12	16.25	24.38	32.50	40.62
2700	84	12	.42	.63	.84	1.69	2.53	4.22	8.44	16.88	25.33	33.75	42.18
2800	87	16	.44	.65	.88	1.75	2.63	4.37	8.75	17.50	26.25	35.00	43.75
2900	90	20	.46	.67	.91	1.81	2.72	4.53	9.06	18.13	27.19	36.25	45.31
3000	93	24	.47	.70	.94	1.88	2.81	4.69	9.38	18.75	28.12	37.50	46.87
3100	96	28	.49	.73	.97	1.94	2.91	4.85	9.69	19.38	29.07	38.75	48.43
3200	100	00	.50	.75	1.00	2.00	3.00	5.00	10.00	20.00	30.00	40.00	50.00
3300	103	04	.52	.77	1.03	2.06	3.09	5.15	10.31	20.62	30.93	41.25	51.56
3400	106	08	.53	.79	1.06	2.12	3.19	5.31	10.62	21.25	31.88	42.50	53.12
3500	109	12	.55	.81	1.09	2.19	3.28	5.47	10.93	21.88	32.81	43.75	54.68
3600	112	16	.57	.84	1.13	2.25	3.37	5.63	11.25	22.50	33.75	45.00	56.25
3700	115	20	.58	.86	1.16	2.31	3.47	5.78	11.56	23.13	34.69	46.25	57.81
3800	118	24	.60	.89	1.19	2.38	3.56	5.94	11.88	23.75	35.62	47.50	59.37
3900	121	28	.61	.91	1.22	2.44	3.66	6.10	12.19	24.38	36.57	48.75	60.93
4000	125	00	.62	.94	1.25	2.50	3.75	6.25	12.50	25.00	37.50	50.00	62.50
4100	128	04	.64	.96	1.28	2.56	3.84	6.40	12.81	25.62	38.43	51.25	64.06
4200	131	08	.65	.98	1.31	2.62	3.94	6.56	13.12	26.25	39.38	52.50	65.62
4300	134	12	.67	1.00	1.34	2.69	4.03	6.72	13.43	26.88	40.31	53.75	67.18
4400	137	16	.69	1.03	1.38	2.75	4.12	6.87	13.75	27.50	41.25	55.00	68.75
4500	140	20	.71	1.05	1.41	2.81	4.22	7.03	14.06	28.13	42.19	56.25	70.31
4600	143	24	.72	1.08	1.44	2.88	4.31	7.19	14.38	28.75	43.12	57.50	71.87
4700	146	28	.74	1.10	1.47	2.94	4.41	7.35	14.69	29.38	44.07	58.75	73.43
4800	150	00	.75	1.12	1.50	3.00	4.50	7.50	15.00	30.00	45.00	60.00	75.00
4900	153	04	.76	1.14	1.53	3.06	4.59	7.65	15.31	30.62	45.93	61.25	76.56
5000	156	08	.78	1.17	1.56	3.12	4.69	7.81	15.62	31.25	46.88	62.50	78.12

BARLEY — 48 lbs. to bushel.

Table showing weight of load in bushels and lbs., and price of same. It is on same line.

Example: How many bushels in a load of Barley weighing 1960 lbs., and what is price of same at 87c. per bushel?

Answer: Look down for 1960 lbs. Next column shows 40 bushels 40 lbs. Add together amounts under 2, 5, and 40 twice, and total is price of load. Thus: .82, 2.04, 16.33 twice = 32.66 = Total, \$35.52. Proceed in like manner for any price or weight.

Lbs.	Bu	lbs	$\frac{1}{2}$ c	$\frac{3}{4}$ c	1c	2c	3c	5c	10c	20c	30c	40c	50c
2		2	..	..	..	..	..	..	..	..	.01	.02	.02
4		4	..	..	..	..	..	..	..	.01	.02	.03	.04
6		6	..	..	..	..	..	..	.01	.02	.03	.05	.06
8		8	..	..	..	..	..	..	.01	.03	.04	.06	.08
10		10	..	..	..	..	.01	.02	.02	.04	.06	.08	.10
20		20	..	..	..	.01	.02	.02	.04	.08	.13	.16	.20
30		30	..	..	..	01	02	03	06	12	19	25	.30
40		40	..	..	01	01	.02	.04	.08	.16	.25	.33	.41
50	1	02	..	.01	.01	.02	.03	.05	.10	.20	.31	.42	.52
60	1	12	..	01	01	.02	.03	.06	.12	.25	.37	.50	.62
70	1	22	..	.01	.01	.03	.04	.07	.14	.28	.44	.58	.72
80	1	32	..	.01	.02	.03	.05	.08	.16	.32	.50	.67	.82
90	1	42	..	.01	.02	.04	.05	.09	.18	.36	.56	.75	.93
100	2	04	01	.02	.02	.04	.06	.10	.20	.41	.62	.83	1.04
500	10	20	.05	.08	.10	.20	.32	.52	1.04	2.08	3.13	4.16	5.20
1000	20	40	.10	.16	.20	.42	.62	1.04	2.08	4.16	6.25	8.33	10.41
1010	21	02	.10	.16	.21	.42	.63	1.05	2.10	4.20	6.31	8.42	10.52
1020	21	12	.10	.16	.21	.42	.63	1.06	2.12	4.25	6.37	8.50	10.62
1030	21	22	.11	.16	.21	.43	.64	1.07	2.14	4.28	6.44	8.58	10.72
1040	21	32	.11	.16	.21	.43	.65	1.08	2.16	4.32	6.50	8.67	10.82
1050	21	42	.11	.17	.22	.44	.65	1.09	2.18	4.36	6.56	8.75	10.93
1060	22	04	.11	.17	.22	.44	.66	1.10	2.20	4.41	6.62	8.83	11.04
1070	22	14	.11	.17	.22	.44	.66	1.11	2.22	4.44	6.68	8.91	11.14
1080	22	24	.11	.17	.22	.45	.67	1.12	2.25	4.50	6.75	9.00	11.24
1090	22	34	.11	.17	.22	.45	.68	1.13	2.26	4.52	6.81	9.08	11.34
1100	22	44	.11	.17	.23	.46	.68	1.14	2.29	4.57	6.87	9.16	11.45
1110	23	06	.11	.17	.23	.46	.69	1.15	2.31	4.62	6.93	9.25	11.56
1120	23	16	.12	.17	.23	.46	.70	1.16	2.33	4.67	6.99	9.33	11.66
1130	23	26	.12	.17	.23	.47	.70	1.17	2.35	4.70	7.06	9.41	11.76
1140	23	36	.12	.17	.23	.47	.71	1.18	2.37	4.74	7.12	9.50	11.86
1150	23	46	.12	.18	.24	.48	.72	1.20	2.40	4.80	7.18	9.58	11.97
1160	24	08	.12	.18	.24	.48	.72	1.21	2.42	4.84	7.24	9.66	12.08
1170	24	18	.12	.18	.24	.48	.73	1.22	2.44	4.88	7.30	9.74	12.18
1180	24	28	.12	.18	.24	.49	.74	1.23	2.46	4.92	7.37	9.82	12.28
1190	24	38	.12	.18	.25	.49	.74	1.24	2.48	4.96	7.43	9.91	12.38
1200	25	00	.12	.19	.25	.50	.75	1.25	2.50	5.00	7.50	10.00	12.50
1210	25	10	.12	.19	.25	.50	.75	1.26	2.52	5.04	7.56	10.08	12.60
1220	25	20	.13	.19	.25	.50	.76	1.27	2.54	5.08	7.63	10.16	12.70
1230	25	30	.13	.19	.25	.51	.77	1.28	2.56	5.12	7.69	10.25	12.80
1240	25	40	.13	.19	.26	.52	.77	1.29	2.58	5.16	7.75	10.33	12.91
1250	26	02	.13	.20	.26	.52	.78	1.30	2.60	5.20	7.81	10.42	13.02
1260	26	12	.13	.20	.26	.52	.78	1.31	2.62	5.25	7.87	10.51	13.12
1270	26	22	.13	.20	.26	.53	.79	1.32	2.64	5.28	7.94	10.58	13.22
1280	26	32	.13	.20	.26	.53	.79	1.33	2.66	5.32	8.00	10.67	13.32
1290	26	42	.13	.20	.27	.54	.80	1.34	2.68	5.36	8.06	10.75	13.43
1300	27	04	.13	.20	.27	.54	.81	1.35	2.70	5.41	8.12	10.83	13.54
1310	27	14	.13	.20	.27	.54	.81	1.36	2.72	5.45	8.18	10.91	13.64
1320	27	24	.14	.20	.27	.55	.82	1.37	2.74	5.49	8.25	10.99	13.74
1330	27	34	.14	.20	.27	.55	.82	1.38	2.76	5.53	8.31	11.08	13.84
1340	27	44	.14	.21	.28	.56	.83	1.39	2.78	5.57	8.37	11.16	13.95
1350	28	06	.14	.21	.28	.56	.84	1.40	2.81	5.62	8.43	11.25	14.06
1360	28	16	.14	.21	.28	.56	.84	1.41	2.83	5.66	8.49	11.33	14.16
1370	28	26	.14	.21	.28	.57	.85	1.42	2.85	5.70	8.55	11.41	14.26
1380	28	36	.14	.21	.28	.57	.86	1.43	2.87	5.75	8.62	11.50	14.36
1390	28	46	.14	.21	.29	.58	.87	1.45	2.90	5.80	8.69	11.58	14.47
1400	29	08	.14	.22	.29	.58	.87	1.45	2.91	5.83	8.74	11.66	14.58
1410	29	18	.14	.22	.29	.58	.87	1.47	2.93	5.87	8.80	11.74	14.68
1420	29	28	.15	.22	.29	.59	.88	1.48	2.95	5.91	8.87	11.82	14.78
1430	29	38	.15	.22	.30	.59	.89	1.49	2.98	5.95	8.93	11.91	14.88

BARLEY — 46 lbs. to Bushel. (Continued)

Lbs.	Bu	lbs	$\frac{1}{2}c$	$\frac{3}{4}c$	1c	2c	3c	5c	10c	20c	30c	40c	50c
1440	30	00	.15	.23	.30	.60	.90	1.50	3.00	6.00	9.00	12.00	15.00
1450	30	10	.15	.23	.30	.60	.90	1.51	3.02	6.04	9.06	12.08	15.10
1460	30	20	.15	.23	.30	.60	.91	1.52	3.04	6.08	9.13	12.16	15.20
1470	30	30	.15	.23	.30	.61	.92	1.53	3.06	6.12	9.19	12.25	15.30
1480	30	40	.15	.23	.31	.62	.92	1.54	3.08	6.16	9.25	12.33	15.41
1490	31	02	.15	.23	.31	.62	.93	1.55	3.10	6.20	9.31	12.42	15.52
1500	31	12	.15	.23	.31	.62	.93	1.56	3.12	6.24	9.37	12.50	15.62
1510	31	22	.15	.23	.31	.63	.94	1.57	3.14	6.28	9.44	12.58	15.72
1520	31	32	.16	.23	.31	.63	.95	1.58	3.16	6.32	9.50	12.67	15.82
1530	31	42	.16	.24	.32	.63	.95	1.59	3.18	6.36	9.56	12.75	15.93
1540	32	04	.16	.24	.32	.64	.96	1.60	3.20	6.41	9.62	12.83	16.04
1550	32	14	.16	.24	.32	.64	.96	1.61	3.22	6.45	9.68	12.91	16.14
1560	32	24	.16	.24	.32	.65	.97	1.62	3.25	6.49	9.75	12.99	16.24
1570	32	34	.16	.24	.32	.65	.98	1.63	3.27	6.53	9.81	13.08	16.34
1580	32	44	.16	.25	.33	.66	.98	1.64	3.30	6.58	9.87	13.16	16.45
1590	33	06	.16	.25	.33	.66	.99	1.65	3.31	6.62	9.93	13.25	16.56
1600	33	16	.16	.25	.33	.66	1.00	1.66	3.33	6.66	9.99	13.33	16.66
1620	33	36	.17	.25	.33	.67	1.01	1.68	3.37	6.74	10.12	13.50	16.86
1640	34	08	.17	.25	.34	.68	1.02	1.71	3.41	6.83	10.24	13.66	17.08
1660	34	28	.17	.26	.34	.69	1.03	1.73	3.45	6.91	10.37	13.82	17.28
1680	35	00	.17	.26	.35	.70	1.05	1.75	3.50	7.00	10.50	14.00	17.50
1700	35	20	.17	.26	.35	.70	1.06	1.77	3.54	7.08	10.63	14.16	17.70
1720	35	40	.18	.27	.36	.72	1.07	1.79	3.58	7.16	10.75	14.33	17.91
1740	36	12	.18	.27	.36	.72	1.08	1.81	3.62	7.24	10.87	14.50	18.12
1760	36	32	.18	.27	.36	.73	1.10	1.83	3.66	7.32	11.00	14.67	18.32
1780	37	04	.18	.28	.37	.74	1.11	1.85	3.70	7.41	11.12	14.83	18.54
1800	37	24	.19	.28	.37	.75	1.12	1.87	3.75	7.49	11.25	14.99	18.74
1820	37	44	.19	.28	.38	.76	1.13	1.89	3.80	7.58	11.37	15.17	18.95
1840	38	16	.19	.29	.38	.76	1.15	1.91	3.83	7.66	11.49	15.33	19.16
1860	38	36	.19	.29	.38	.77	1.16	1.93	3.87	7.74	11.62	15.50	19.36
1880	39	08	.19	.29	.39	.78	1.17	1.95	3.91	7.83	11.74	15.66	19.58
1900	39	28	.20	.29	.39	.79	1.18	1.98	3.95	7.91	11.87	15.82	19.78
1920	40	00	.20	.30	.40	.80	1.20	2.00	4.00	8.00	12.00	16.00	20.00
1940	40	20	.20	.30	.40	.80	1.21	2.02	4.04	8.08	12.13	16.16	20.20
1960	40	40	.20	.31	.41	.82	1.22	2.04	4.08	8.16	12.25	16.33	20.41
1980	41	12	.20	.31	.41	.82	1.23	2.06	4.12	8.24	12.37	16.50	20.62
2000	41	32	.21	.32	.42	.83	1.25	2.08	4.16	8.32	12.50	16.67	20.82
2100	43	36	.22	.33	.44	.87	1.31	2.18	4.37	8.74	13.12	17.51	21.86
2200	45	40	.23	.35	.46	.92	1.37	2.29	4.58	9.16	13.75	18.33	22.91
2300	47	44	.24	.36	.48	.96	1.43	2.39	4.79	9.57	14.37	19.16	23.95
2400	50	00	.25	.38	.50	1.00	1.50	2.50	5.00	10.00	15.00	20.00	25.00
2500	52	04	.26	.39	.52	1.04	1.56	2.60	5.20	10.41	15.62	20.83	26.04
2600	54	08	.27	.41	.54	1.08	1.62	2.71	5.41	10.83	16.24	21.66	27.08
2700	56	12	.28	.42	.56	1.12	1.68	2.81	5.62	11.24	16.87	22.50	28.12
2800	58	16	.29	.44	.58	1.16	1.75	2.91	5.83	11.66	17.49	23.33	29.16
2900	60	20	.30	.45	.60	1.21	1.81	3.02	6.04	12.08	18.13	24.16	30.20
3000	62	24	.31	.47	.62	1.25	1.87	3.12	6.25	12.50	18.75	25.00	31.24
3100	64	28	.32	.48	.64	1.29	1.93	3.23	6.46	12.91	19.37	25.82	32.28
3200	66	32	.33	.50	.67	1.33	2.00	3.33	6.66	13.32	20.00	26.67	33.32
3300	68	36	.34	.51	.69	1.37	2.06	3.44	6.88	13.74	20.62	27.50	34.36
3400	70	40	.35	.53	.71	1.42	2.12	3.54	7.08	14.16	21.25	28.33	35.40
3500	72	44	.36	.54	.73	1.46	2.18	3.65	7.29	14.58	21.87	29.16	36.44
3600	75	00	.37	.56	.75	1.50	2.25	3.75	7.50	15.00	22.50	30.00	37.50
3700	77	04	.38	.58	.77	1.54	2.31	3.85	7.70	15.41	23.12	30.83	38.54
3800	79	08	.40	.59	.79	1.58	2.37	3.96	7.91	15.83	23.74	31.66	39.58
3900	81	12	.41	.61	.81	1.62	2.43	4.06	8.12	16.25	24.37	32.50	40.62
4000	83	16	.42	.62	.83	1.66	2.50	4.16	8.33	16.66	24.99	33.33	41.66
4100	85	20	.43	.64	.85	1.71	2.56	4.27	8.54	17.08	25.63	34.16	42.70
4200	87	24	.44	.65	.87	1.75	2.62	4.37	8.75	17.50	26.25	35.00	43.74
4300	89	28	.45	.67	.90	1.79	2.69	4.48	8.96	17.91	26.87	35.82	44.78
4400	91	32	.46	.68	.92	1.83	2.75	4.58	9.16	18.32	27.50	36.67	45.82
4500	93	36	.47	.70	.94	1.87	2.81	4.68	9.37	18.75	28.12	37.50	46.86
4600	95	40	.48	.72	.96	1.92	2.87	4.78	9.58	19.16	28.75	38.33	47.90
4700	97	44	.49	.74	.98	1.96	2.94	4.90	9.79	19.57	29.37	39.16	48.94
4800	100	00	.50	.75	1.00	2.00	3.00	5.00	10.00	20.00	30.00	40.00	50.00
4900	102	04	.51	.77	1.02	2.04	3.06	5.10	10.20	20.41	30.62	40.83	51.04
5000	104	08	.52	.78	1.04	2.08	3.12	5.21	10.41	20.83	31.24	41.66	52.08

CORN (Shelled), RYE, FLAXSEED, ETC.—56 lbs. to bushel.

Table showing weight of load in bushels and lbs., and price of same. All on the same line.

Example: How many bushels in a load of shelled Corn weighing 1040 lbs., and what is the price at 63½c. per bushel?

Answer: Look for 1040 in weight. Next column shows 18 bushels, 32 lbs. Now add together the amounts under ½, 3, 10, and 50, and the total is the price of load. Thus, .14, .55, 1.85, 9.29 = Total \$11.83. In same manner any price can be calculated.

Lbs.	Bu	lbs	½c	¾c	1c	2c	3c	5c	10c	20c	30c	40c	50c
2		2									.01	.02	.02
4		4	..	..	..	..	..	..	..	.01	.02	.03	.04
6		6	..	..	..	..	..	..	..	.02	.03	.05	.06
8		8	..	..	..	..	..	..	.01	.03	.04	.06	.07
10		10	..	..	..	..	..	..	.02	.03	.05	.07	.09
20		20	..	..	..	..	.01	.01	.03	.07	.11	.15	.19
30		30	..	..	..	.01	.01	.02	.05	.11	.16	.22	.27
40		40	..	..	..	.01	.02	.03	.07	.14	.21	.28	.36
50		50	..	..	..	.01	.02	.04	.09	.18	.27	.36	.45
100	1	44	.01	.01	.01	.03	.05	.08	.17	.35	.53	.72	.90
500	8	52	.04	.06	.09	.18	.27	.44	.89	1.79	2.68	3.58	4.47
1000	17	48	.09	.13	.18	.35	.53	.88	1.77	3.57	5.35	7.14	8.93
1010	18	02	.09	.14	.18	.36	.54	.90	1.80	3.60	5.40	7.21	9.01
1020	18	12	.09	.14	.18	.36	.54	.90	1.81	3.64	5.46	7.28	9.11
1030	18	22	.09	.14	.18	.36	.55	.91	1.83	3.68	5.52	7.36	9.20
1040	18	32	.09	.14	.19	.37	.55	.92	1.85	3.71	5.57	7.43	9.29
1050	18	42	.09	.14	.19	.37	.56	.93	1.87	3.75	5.63	7.50	9.38
1060	18	52	.09	.14	.19	.37	.57	.94	1.89	3.79	5.68	7.57	9.47
1070	19	06	.10	.14	.19	.38	.57	.95	1.90	3.82	5.73	7.65	9.56
1080	19	16	.10	.14	.19	.38	.57	.95	1.92	3.86	5.79	7.72	9.65
1090	19	26	.10	.14	.19	.38	.58	.96	1.94	3.89	5.84	7.78	9.73
1100	19	36	.10	.14	.20	.39	.58	.97	1.96	3.93	5.89	7.85	9.82
1110	19	46	.10	.14	.20	.39	.59	.98	1.98	3.97	5.95	7.93	9.91
1120	20	00	.10	.15	.20	.40	.60	1.00	2.00	4.00	6.00	8.00	10.00
1130	20	10	.10	.15	.20	.40	.60	1.00	2.02	4.03	6.05	8.08	10.09
1140	20	20	.10	.15	.20	.40	.61	1.01	2.03	4.07	6.11	8.15	10.19
1150	20	30	.10	.15	.21	.41	.61	1.02	2.05	4.11	6.16	8.22	10.27
1160	20	40	.10	.15	.21	.41	.62	1.03	2.07	4.14	6.21	8.28	10.36
1170	20	50	.10	.15	.21	.42	.62	1.04	2.09	4.18	6.27	8.36	10.45
1180	21	04	.10	.16	.21	.42	.63	1.05	2.10	4.21	6.32	8.43	10.54
1190	21	14	.11	.16	.21	.42	.63	1.06	2.12	4.25	6.37	8.50	10.63
1200	21	24	.11	.16	.21	.42	.64	1.07	2.13	4.28	6.43	8.58	10.72
1210	21	34	.11	.16	.22	.43	.64	1.08	2.16	4.32	6.48	8.65	10.81
1220	21	44	.11	.16	.22	.43	.65	1.09	2.18	4.35	6.53	8.71	10.90
1230	21	54	.11	.16	.22	.44	.65	1.10	2.20	4.39	6.59	8.79	10.99
1240	22	08	.11	.17	.22	.44	.66	1.10	2.21	4.43	6.64	8.86	11.07
1250	22	18	.11	.17	.22	.44	.66	1.11	2.23	4.46	6.69	8.93	11.16
1260	22	28	.11	.17	.22	.45	.67	1.12	2.25	4.50	6.75	9.00	11.25
1270	22	38	.11	.17	.23	.45	.67	1.13	2.26	4.53	6.80	9.08	11.34
1280	22	48	.11	.17	.23	.45	.68	1.14	2.28	4.57	6.85	9.14	11.43
1290	23	02	.11	.17	.23	.46	.69	1.15	2.30	4.60	6.91	9.22	11.52
1300	23	12	.12	.17	.23	.46	.69	1.15	2.32	4.64	6.96	9.29	11.61
1310	23	22	.12	.17	.23	.46	.70	1.16	2.33	4.67	7.02	9.37	11.71
1320	23	32	.12	.17	.24	.47	.71	1.17	2.35	4.71	7.07	9.44	11.79
1330	23	42	.12	.17	.24	.47	.71	1.18	2.37	4.74	7.12	9.50	11.88
1340	23	52	.12	.18	.24	.48	.72	1.19	2.39	4.78	7.18	9.58	11.97
1350	24	06	.12	.18	.24	.48	.72	1.20	2.40	4.82	7.23	9.65	12.06
1360	24	16	.12	.18	.24	.48	.72	1.21	2.42	4.85	7.28	9.72	12.15
1370	24	26	.12	.18	.24	.48	.73	1.22	2.44	4.89	7.34	9.80	12.25
1380	24	36	.12	.18	.25	.49	.73	1.23	2.46	4.93	7.39	9.87	12.33
1390	24	46	.12	.18	.25	.49	.74	1.24	2.48	4.96	7.44	9.93	12.42
1400	25	00	.12	.19	.25	.50	.75	1.25	2.50	5.00	7.50	10.00	12.50
1410	25	10	.13	.19	.25	.50	.75	1.25	2.52	5.03	7.55	10.07	12.59
1420	25	20	.13	.19	.25	.50	.76	1.26	2.53	5.07	7.61	10.15	12.69
1430	25	30	.13	.19	.26	.51	.76	1.27	2.55	5.11	7.66	10.22	12.77
1440	25	40	.13	.19	.26	.51	.77	1.28	2.57	5.14	7.71	10.28	12.86
1450	25	50	.13	.19	.26	.52	.77	1.29	2.59	5.18	7.77	10.36	12.95
1460	26	04	.13	.20	.26	.52	.78	1.30	2.60	5.21	7.82	10.43	13.04
1470	26	14	.13	.20	.26	.52	.78	1.31	2.62	5.25	7.87	10.50	13.13

CORN (Shelled), RYE, FLAXSEED, ETC. (Continued)

Lbs.	Bu	lbs	$\frac{1}{2}c$	$\frac{3}{4}c$	1c	2c	3c	5c	10c	20c	30c	40c	50c
1480	26	24	.13	.20	.26	.52	.79	1.32	2.64	5.29	7.93	10.58	13.23
1490	26	34	.13	.20	.27	.53	.79	1.33	2.66	5.32	7.98	10.65	13.31
1500	26	44	.13	.20	.27	.53	.80	1.34	2.68	5.36	8.03	10.71	13.40
1510	26	54	.13	.20	.27	.54	.81	1.35	2.70	5.39	8.09	10.79	13.49
1520	27	08	.13	.20	.27	.54	.81	1.35	2.71	5.43	8.14	10.86	13.57
1530	27	18	.14	.20	.27	.54	.81	1.36	2.73	5.46	8.19	10.93	13.66
1540	27	28	.14	.21	.28	.55	.82	1.37	2.75	5.50	8.25	11.00	13.75
1550	27	38	.14	.21	.28	.55	.83	1.38	2.77	5.54	8.30	11.08	13.84
1560	27	48	.14	.21	.28	.55	.83	1.39	2.78	5.58	8.35	11.15	13.93
1570	28	02	.14	.21	.28	.56	.84	1.40	2.80	5.60	8.41	11.22	14.02
1580	28	12	.14	.21	.28	.56	.84	1.40	2.82	5.64	8.46	11.29	14.11
1590	28	22	.14	.21	.28	.56	.85	1.41	2.83	5.68	8.52	11.37	14.21
1600	28	32	.14	.21	.29	.57	.85	1.42	2.85	5.72	8.57	11.44	14.29
1610	28	42	.14	.21	.29	.57	.86	1.43	2.87	5.75	8.62	11.50	14.38
1620	28	52	.14	.21	.29	.58	.86	1.44	2.89	5.78	8.68	11.58	14.47
1630	29	06	.14	.22	.29	.58	.87	1.45	2.90	5.82	8.73	11.65	14.56
1640	29	16	.15	.22	.29	.58	.87	1.46	2.92	5.85	8.78	11.72	14.65
1650	29	26	.15	.22	.29	.58	.88	1.47	2.94	5.89	8.84	11.80	14.75
1660	29	36	.15	.22	.30	.59	.88	1.48	2.96	5.93	8.89	11.87	14.83
1670	29	46	.15	.22	.30	.59	.89	1.49	2.98	5.96	8.94	11.93	14.92
1680	30	00	.15	.23	.30	.60	.90	1.50	3.00	6.00	9.00	12.00	15.00
1700	30	20	.15	.23	.30	.60	.91	1.51	3.03	6.07	9.11	12.15	15.19
1720	30	40	.15	.23	.31	.61	.92	1.53	3.07	6.14	9.21	12.28	15.36
1740	31	04	.15	.23	.31	.62	.93	1.55	3.10	6.21	9.32	12.43	15.54
1760	31	24	.16	.23	.31	.62	.94	1.57	3.14	6.28	9.43	12.58	15.73
1780	31	44	.16	.23	.32	.63	.95	1.59	3.18	6.35	9.53	12.71	15.90
1800	32	08	.16	.24	.32	.64	.96	1.60	3.21	6.43	9.64	12.86	16.07
1820	32	28	.16	.24	.33	.65	.97	1.62	3.25	6.50	9.75	13.00	16.25
1840	32	48	.16	.24	.33	.65	.98	1.64	3.28	6.57	9.85	13.14	16.43
1860	33	12	.17	.24	.33	.66	.99	1.66	3.32	6.64	9.96	13.29	16.61
1880	33	32	.17	.24	.34	.67	1.00	1.67	3.35	6.72	10.07	13.44	16.79
1900	33	52	.17	.25	.34	.68	1.01	1.69	3.39	6.78	10.18	13.58	16.97
1920	34	16	.17	.25	.34	.68	1.02	1.71	3.42	6.85	10.28	13.72	17.15
1940	34	36	.17	.25	.35	.69	1.04	1.73	3.46	6.93	10.39	13.87	17.33
1960	35	00	.17	.26	.35	.70	1.05	1.75	3.50	7.00	10.50	14.00	17.50
1980	35	20	.18	.26	.35	.70	1.06	1.76	3.53	7.07	10.61	14.15	17.69
2000	35	40	.18	.26	.36	.71	1.07	1.78	3.57	7.14	10.71	14.28	17.86
2100	37	28	.19	.28	.38	.75	1.12	1.87	3.75	7.50	11.25	15.00	18.75
2200	39	16	.20	.29	.39	.78	1.17	1.96	3.93	7.85	11.78	15.72	19.65
2300	41	04	.20	.30	.41	.82	1.23	2.05	4.10	8.21	12.32	16.43	20.54
2400	42	48	.21	.32	.43	.85	1.28	2.14	4.28	8.57	12.85	17.14	21.43
2500	44	36	.22	.33	.45	.89	1.33	2.23	4.46	8.93	13.39	17.87	22.33
2600	46	24	.23	.35	.46	.93	1.39	2.32	4.64	9.28	13.93	18.58	23.23
2700	48	12	.24	.36	.48	.96	1.44	2.41	4.82	9.64	14.46	19.29	24.11
2800	50	00	.25	.38	.50	1.00	1.50	2.50	5.00	10.00	15.00	20.00	25.00
2900	51	44	.26	.39	.52	1.03	1.55	2.59	5.18	10.36	15.53	20.71	25.90
3000	53	32	.27	.40	.54	1.07	1.60	2.67	5.36	10.71	16.07	21.44	26.79
3100	55	20	.28	.41	.55	1.10	1.66	2.76	5.53	11.07	16.61	22.15	27.69
3200	57	08	.29	.43	.57	1.14	1.71	2.85	5.71	11.43	17.14	22.86	28.57
3300	58	52	.29	.44	.59	1.18	1.76	2.94	5.89	11.78	17.68	23.58	29.47
3400	60	40	.30	.45	.61	1.21	1.82	3.03	6.07	12.14	18.21	24.28	30.36
3500	62	28	.31	.46	.63	1.25	1.87	3.12	6.25	12.50	18.75	25.00	31.26
3600	64	16	.32	.48	.64	1.28	1.92	3.21	6.43	12.85	19.28	25.72	32.15
3700	66	04	.33	.49	.66	1.32	1.98	3.30	6.60	13.21	19.82	26.43	33.04
3800	67	48	.34	.50	.68	1.35	2.03	3.39	6.78	13.57	20.35	27.14	33.93
3900	69	36	.35	.52	.70	1.39	2.08	3.48	6.96	13.93	20.89	27.87	34.83
4000	71	24	.36	.53	.71	1.43	2.14	3.57	7.14	14.28	21.43	28.58	35.73
4100	73	12	.37	.54	.73	1.46	2.19	3.66	7.32	14.64	21.96	29.29	36.61
4200	75	00	.38	.56	.75	1.50	2.25	3.75	7.50	15.00	22.50	30.00	37.50
4300	76	44	.38	.57	.77	1.53	2.30	3.84	7.68	15.36	23.03	30.71	38.40
4400	78	32	.39	.59	.79	1.57	2.35	3.92	7.85	15.72	23.57	31.35	39.29
4500	80	20	.40	.60	.80	1.60	2.41	4.01	8.03	16.07	24.11	32.15	40.19
4600	82	08	.41	.61	.82	1.64	2.46	4.10	8.21	16.43	24.64	32.86	41.07
4700	83	52	.42	.63	.84	1.68	2.51	4.19	8.39	16.89	25.18	33.58	41.97
4800	85	40	.43	.64	.86	1.71	2.57	4.28	8.57	17.14	25.71	34.28	42.86
4900	87	28	.44	.65	.88	1.75	2.62	4.37	8.75	17.50	26.25	35.00	43.75
5000	89	16	.45	.67	.89	1.78	2.67	4.46	8.93	17.85	26.78	35.72	44.65

EAR CORN — 70 lbs. to bushel.

Table showing weight of load in bushels and lbs., and price of same. All on the same line.

Example: How many bushels in load of Ear Corn weighing 2700 lbs., and what is the price at 44½c. per bushel?

Answer: Look for 2700 in weight column. Next column shows 38 bushels 40 lbs. Add together amounts under ½, 2 (twice), and 40, and total is price. Thus: .19, 1.54, 15.43 = Total \$17.16. In same manner any price can be calculated.

Lbs.	Bu	lbs	½c	¾c	1c	2c	3c	5c	10c	20c	30c	40c	50c
5		8	..	..	..	..	..	..	..	..	.02	.03	.03
10		10	..	..	..	..	..	..	.02	.03	.04	.06	.07
20		20	..	..	..	..	.01	.01	.03	.06	.09	.12	.14
30		30	..	..	..	..	.01	.02	.04	.09	.13	.17	.21
40		40	..	..	..	.01	.02	.02	.06	.12	.17	.23	.28
50		50	..	..	..	.01	.02	.03	.07	.15	.21	.28	.36
60		60	..	..	..	.01	.02	.04	.08	.17	.26	.35	.43
70	1	00	..	..	.01	.02	.03	.05	.10	.20	.30	.40	.50
80	1	10	..	.01	.01	.02	.03	.05	.12	.23	.34	.46	.57
90	1	20	..	.01	.01	.02	.04	.06	.13	.26	.39	.52	.64
100	1	30	.01	.01	.01	.03	.04	.06	.14	.29	.43	.57	.71
500	7	10	.03	.05	.07	.14	.21	.35	.72	1.43	2.14	2.86	3.57
1000	14	20	.07	.10	.14	.28	.43	.71	1.43	2.86	4.29	5.72	7.14
1010	14	30	.07	.10	.14	.28	.43	.72	1.44	2.89	4.33	5.77	7.21
1020	14	40	.07	.11	.15	.29	.44	.72	1.46	2.92	4.37	5.83	7.28
1030	14	50	.07	.11	.15	.29	.44	.73	1.47	2.95	4.41	5.88	7.36
1040	14	60	.07	.11	.15	.29	.44	.74	1.48	2.97	4.46	5.93	7.43
1050	15	00	.07	.11	.15	.30	.45	.75	1.50	3.00	4.50	6.00	7.50
1060	15	10	.07	.11	.15	.30	.45	.75	1.52	3.03	4.54	6.06	7.57
1070	15	20	.07	.11	.15	.30	.46	.76	1.53	3.06	4.59	6.12	7.64
1080	15	30	.08	.11	.15	.30	.46	.77	1.54	3.09	4.63	6.17	7.71
1090	15	40	.08	.12	.16	.31	.47	.77	1.56	3.12	4.67	6.23	7.78
1100	15	50	.08	.12	.16	.31	.47	.78	1.57	3.15	4.71	6.28	7.86
1110	15	60	.08	.12	.16	.31	.47	.79	1.58	3.17	4.76	6.35	7.93
1120	16	00	.08	.12	.16	.32	.48	.80	1.60	3.20	4.80	6.40	8.00
1130	16	10	.08	.12	.16	.32	.48	.80	1.62	3.23	4.84	6.46	8.07
1140	16	20	.08	.12	.16	.32	.49	.81	1.63	3.26	4.89	6.52	8.14
1150	16	30	.08	.12	.16	.32	.49	.82	1.64	3.29	4.93	6.57	8.21
1160	16	40	.08	.13	.17	.33	.50	.82	1.66	3.32	4.97	6.63	8.28
1170	16	50	.08	.13	.17	.33	.50	.83	1.67	3.35	5.01	6.68	8.36
1180	16	60	.08	.13	.17	.33	.50	.84	1.68	3.37	5.06	6.75	8.43
1190	17	00	.08	.13	.17	.34	.51	.85	1.70	3.40	5.10	6.80	8.50
1200	17	10	.08	.13	.17	.34	.51	.85	1.72	3.43	5.14	6.86	8.57
1210	17	20	.08	.13	.17	.34	.52	.86	1.73	3.46	5.19	6.92	8.64
1220	17	30	.09	.13	.17	.34	.52	.87	1.74	3.49	5.23	6.97	8.71
1230	17	40	.09	.14	.18	.35	.53	.87	1.76	3.52	5.27	7.03	8.78
1240	17	50	.09	.14	.18	.35	.53	.88	1.77	3.55	5.31	7.08	8.86
1250	17	60	.09	.14	.18	.35	.53	.89	1.78	3.57	5.36	7.15	8.93
1260	18	00	.09	.14	.18	.36	.54	.90	1.80	3.60	5.40	7.20	9.00
1270	18	10	.09	.14	.18	.36	.54	.90	1.82	3.63	5.44	7.26	9.07
1280	18	20	.09	.14	.18	.36	.55	.91	1.83	3.66	5.49	7.32	9.14
1290	18	30	.09	.14	.18	.36	.55	.92	1.84	3.69	5.53	7.37	9.21
1300	18	40	.09	.14	.19	.37	.56	.92	1.86	3.72	5.57	7.43	9.28
1310	18	50	.09	.14	.19	.37	.56	.93	1.87	3.75	5.61	7.48	9.36
1320	18	60	.09	.14	.19	.37	.56	.94	1.88	3.77	5.66	7.55	9.43
1330	19	00	.09	.14	.19	.38	.57	.95	1.90	3.80	5.70	7.60	9.50
1340	19	10	.09	.14	.19	.38	.57	.95	1.92	3.83	5.74	7.66	9.57
1350	19	20	.09	.14	.19	.38	.58	.96	1.93	3.86	5.79	7.72	9.64
1360	19	30	.10	.15	.19	.38	.58	.97	1.94	3.89	5.83	7.77	9.71
1370	19	40	.10	.15	.20	.39	.59	.97	1.96	3.92	5.87	7.83	9.78
1380	19	50	.10	.15	.20	.39	.59	.98	1.97	3.95	5.91	7.88	9.86
1390	19	60	.10	.15	.20	.39	.59	.99	1.98	3.97	5.96	7.95	9.93
1400	20	00	.10	.15	.20	.40	.60	1.00	2.00	4.00	6.00	8.00	10.00
1410	20	10	.10	.15	.20	.40	.60	1.00	2.02	4.03	6.04	8.06	10.07
1420	20	20	.10	.15	.20	.40	.61	1.01	2.03	4.06	6.09	8.12	10.14
1430	20	30	.10	.15	.20	.40	.61	1.02	2.04	4.09	6.13	8.17	10.21
1440	20	40	.10	.15	.21	.41	.62	1.02	2.06	4.12	6.17	8.23	10.28
1450	20	50	.10	.15	.21	.41	.62	1.03	2.07	4.15	6.21	8.28	10.36

EAR CORN — 70 lbs. to bushel. (Continued)

Lbs.	Bu	lbs	$\frac{1}{2}c$	$\frac{3}{4}c$	1c	2c	3c	5c	10c	20c	30c	40c	50c
1460	20	60	.10	.16	.21	.41	.62	1.04	2.08	4.17	6.26	8.35	10.43
1470	21	00	.10	.16	.21	.42	.63	1.05	2.10	4.20	6.30	8.40	10.50
1480	21	10	.10	.16	.21	.42	.63	1.05	2.12	4.23	6.34	8.46	10.57
1490	21	20	.10	.16	.21	.42	.64	1.06	2.13	4.26	6.39	8.52	10.64
1500	21	30	.11	.16	.21	.42	.64	1.07	2.14	4.29	6.43	8.57	10.71
1510	21	40	.11	.16	.22	.43	.65	1.07	2.16	4.32	6.47	8.63	10.78
1520	21	50	.11	.16	.22	.43	.65	1.08	2.17	4.35	6.51	8.68	10.86
1530	21	60	.11	.17	.22	.43	.65	1.09	2.18	4.37	6.56	8.75	10.93
1540	22	00	.11	.17	.22	.44	.66	1.10	2.20	4.40	6.60	8.80	11.00
1550	22	10	.11	.17	.22	.44	.66	1.10	2.22	4.43	6.64	8.86	11.07
1560	22	20	.11	.17	.22	.44	.67	1.11	2.23	4.46	6.69	8.92	11.14
1570	22	30	.11	.17	.22	.44	.67	1.12	2.24	4.49	6.73	8.97	11.21
1580	22	40	.11	.17	.23	.45	.68	1.12	2.26	4.52	6.77	9.03	11.28
1590	22	50	.11	.17	.23	.45	.68	1.13	2.27	4.55	6.81	9.08	11.36
1600	22	60	.11	.18	.23	.45	.68	1.14	2.28	4.57	6.86	9.15	11.43
1610	23	00	.11	.18	.23	.46	.69	1.15	2.30	4.60	6.90	9.20	11.50
1620	23	10	.11	.18	.23	.46	.69	1.15	2.32	4.63	6.94	9.26	11.57
1630	23	20	.11	.18	.23	.46	.70	1.16	2.33	4.66	6.99	9.32	11.64
1640	23	30	.12	.18	.23	.46	.70	1.17	2.34	4.69	7.03	9.37	11.71
1660	23	50	.12	.18	.24	.47	.71	1.18	2.37	4.75	7.11	9.48	11.86
1680	24	00	.12	.18	.24	.48	.72	1.20	2.40	4.80	7.20	9.60	12.00
1700	24	20	.12	.18	.24	.48	.73	1.21	2.43	4.86	7.29	9.72	12.14
1720	24	40	.12	.18	.25	.49	.74	1.22	2.46	4.92	7.37	9.83	12.28
1740	24	60	.12	.19	.25	.49	.74	1.24	2.48	4.97	7.46	9.95	12.43
1760	25	10	.12	.19	.25	.50	.75	1.25	2.52	5.03	7.54	10.06	12.57
1780	25	30	.13	.19	.25	.50	.76	1.27	2.54	5.09	7.63	10.17	12.71
1800	25	50	.13	.19	.26	.51	.77	1.28	2.57	5.15	7.71	10.28	12.86
1820	26	00	.13	.20	.26	.52	.78	1.30	2.60	5.20	7.80	10.40	13.00
1840	26	20	.13	.20	.26	.52	.79	1.31	2.63	5.26	7.89	10.52	13.14
1860	26	40	.13	.20	.27	.53	.80	1.32	2.66	5.32	7.97	10.63	13.28
1880	26	60	.13	.20	.27	.53	.80	1.34	2.68	5.37	8.06	10.75	13.43
1900	27	10	.13	.20	.27	.54	.81	1.35	2.72	5.43	8.14	10.86	13.57
1920	27	30	.14	.20	.27	.54	.82	1.36	2.74	5.49	8.23	10.97	13.71
1940	27	50	.14	.20	.28	.55	.83	1.38	2.77	5.55	8.31	11.08	13.86
1960	28	00	.14	.21	.28	.56	.84	1.40	2.80	5.60	8.40	11.20	14.00
1980	28	20	.14	.21	.28	.56	.85	1.41	2.83	5.66	8.49	11.32	14.14
2000	28	40	.14	.21	.28	.57	.86	1.42	2.86	5.72	8.57	11.43	14.28
2100	30	00	.15	.22	.30	.60	.90	1.50	3.00	6.00	9.00	12.00	15.00
2200	31	30	.16	.23	.31	.62	.94	1.57	3.14	6.29	9.43	12.57	15.71
2300	32	60	.16	.25	.33	.65	.98	1.64	3.28	6.57	9.86	13.15	16.43
2400	34	20	.17	.26	.34	.68	1.03	1.71	3.42	6.86	10.29	13.72	17.14
2500	35	50	.18	.27	.36	.71	1.07	1.78	3.57	7.15	10.71	14.28	17.86
2600	37	10	.18	.28	.37	.74	1.11	1.86	3.72	7.43	11.14	14.86	18.57
2700	38	40	.19	.29	.38	.77	1.16	1.92	3.86	7.72	11.57	15.43	19.28
2800	40	00	.20	.30	.40	.80	1.20	2.00	4.00	8.00	12.00	16.00	20.00
2900	41	30	.21	.31	.41	.82	1.24	2.07	4.14	8.29	12.43	16.57	20.71
3000	42	60	.21	.32	.43	.85	1.28	2.14	4.28	8.57	12.86	17.15	21.43
3100	44	20	.22	.33	.44	.88	1.33	2.21	4.43	8.86	13.29	17.72	22.14
3200	45	50	.23	.34	.46	.91	1.37	2.28	4.57	9.15	13.71	18.28	22.86
3300	47	10	.23	.35	.47	.94	1.41	2.36	4.72	9.43	14.14	18.86	23.57
3400	48	40	.24	.36	.48	.97	1.46	2.42	4.86	9.72	14.57	19.43	24.28
3500	50	00	.25	.38	.50	1.00	1.50	2.50	5.00	10.00	15.00	20.00	25.00
3600	51	30	.26	.39	.51	1.02	1.54	2.57	5.14	10.29	15.43	20.57	25.71
3700	52	60	.26	.40	.53	1.05	1.58	2.64	5.28	10.57	15.86	21.15	26.43
3800	54	20	.27	.41	.54	1.08	1.63	2.71	5.43	10.86	16.29	21.72	27.14
3900	55	50	.28	.42	.56	1.11	1.67	2.78	5.57	11.15	16.71	22.28	27.86
4000	57	10	.28	.43	.57	1.14	1.71	2.85	5.72	11.43	17.14	22.86	28.57
4100	58	40	.29	.44	.58	1.17	1.76	2.92	5.86	11.72	17.57	23.43	29.28
4200	60	00	.30	.45	.60	1.20	1.80	3.00	6.00	12.00	18.00	24.00	30.00
4300	61	30	.31	.46	.61	1.22	1.84	3.07	6.14	12.29	18.43	24.57	30.71
4400	62	60	.31	.47	.63	1.25	1.88	3.14	6.28	12.57	18.86	25.15	31.43
4500	64	20	.32	.48	.64	1.28	1.93	3.21	6.43	12.86	19.29	25.72	32.14
4600	65	50	.33	.49	.66	1.31	1.97	3.28	6.57	13.15	19.71	26.28	32.86
4700	67	10	.33	.50	.67	1.34	2.01	3.35	6.72	13.43	20.14	26.86	33.57
4800	68	40	.34	.52	.68	1.37	2.06	3.42	6.86	13.72	20.57	27.43	34.28
4900	70	00	.35	.53	.70	1.40	2.10	3.50	7.00	14.00	21.00	28.00	35.00
5000	71	30	.36	.54	.71	1.42	2.14	3.57	7.14	14.29	21.43	28.57	35.71

WHEAT, BEANS, PEAS, POTATOES, CLOVER SEED, ETC.—60, LBS. TO BUSHEL.

Table showing weight in bushels and lbs. 10,000 and over. Also price of same.

Weight	Bushels	Lbs.	$\frac{1}{2}c$	$\frac{3}{4}c$	1c	2c	3c	5c	10c	20c	30c	40c	50c
10,000	166	40	.83	1.25	1.66	3.33	5.00	8.33	16.66	33.33	50.00	66.66	83.33
20,000	333	20	1.67	2.50	3.33	6.66	10.00	16.66	33.33	66.66	100.00	133.33	166.67
30,000	500	00	2.50	3.75	5.00	10.00	15.00	25.00	50.00	99.99	150.00	199.99	250.00
40,000	666	40	3.33	5.00	6.66	13.33	20.00	33.33	66.66	133.33	200.00	266.66	333.33
50,000	833	20	4.17	6.25	8.33	16.66	25.00	41.66	83.33	166.66	250.00	333.33	416.67
100,000	1666	40	8.33	12.50	16.66	23.33	50.00	83.33	166.66	333.33	500.00	666.66	833.30

CORN, RYE, AND FLAXSEED, ETC.—56 LBS. TO BUSHEL.

Table showing weight of 10,000 lbs. and over. Also prices of same.

Weight	Bushels	Lbs.	$\frac{1}{2}c$	$\frac{3}{4}c$	1c	2c	3c	5c	10c	20c	30c	40c	50c
10,000	178	32	.89	1.34	1.79	3.57	5.35	8.93	17.85	35.72	53.57	71.44	89.29
20,000	357	08	1.79	2.68	3.57	7.14	10.71	17.85	35.71	71.43	107.14	142.86	178.57
30,000	535	40	2.68	4.02	5.36	10.71	16.07	26.78	53.57	107.14	161.71	214.28	267.86
40,000	714	16	3.57	5.35	7.14	14.28	21.42	35.71	71.43	142.85	213.28	285.72	357.15
50,000	892	48	4.46	6.69	8.93	17.86	26.78	44.64	89.28	178.57	267.85	357.14	446.43
100,000	1785	40	8.93	13.32	17.86	35.71	53.57	89.28	178.57	357.14	535.71	714.28	892.86

OATS.—32 LBS. TO BUSHEL.

Table showing weight of 10,000 lbs. and over. Also prices of same.

Weight	Bushels	Lbs.	$\frac{1}{2}c$	$\frac{3}{4}c$	1c	2c	3c	5c	10c	20c	30c	40c	50c
10,000	312	16	1.56	2.34	3.13	6.25	9.37	15.62	31.25	62.50	93.75	125.00	156.25
20,000	625	00	3.12	4.69	6.25	12.50	18.75	31.25	62.50	125.00	187.50	250.00	312.50
30,000	937	16	4.68	7.03	9.38	18.75	28.13	46.87	93.75	187.50	281.25	375.00	468.75
40,000	1250	00	6.25	9.73	12.50	25.00	37.50	62.50	125.00	250.00	375.00	500.00	625.00
50,000	1562	16	7.81	11.72	15.63	31.25	46.88	78.12	156.25	312.50	468.75	625.00	781.25
100,000	3125	00	15.62	23.44	31.25	62.50	93.75	156.25	312.50	625.00	937.50	1250.00	1562.50

BARLEY.—48 LBS. TO BUSHEL.

Table showing weight of 10,000 lbs. and over. Also prices of same.

Weight	BusHEL	Lbs.	$\frac{1}{2}c$	$\frac{3}{4}c$	1c	2c	3c	5c	10c	20c	30c	40c	50c
10,000	208	16	1.04	1.56	2.08	4.16	6.25	10.42	20.83	41.66	62.50	83.33	104.16
20,000	416	32	2.08	3.12	4.17	8.33	12.50	20.83	41.66	83.33	125.00	166.67	208.32
30,000	625	00	3.12	4.68	6.25	12.50	18.75	31.25	62.50	125.00	187.50	250.00	312.50
40,000	833	16	4.17	6.24	8.33	16.66	25.00	41.67	83.33	166.66	250.00	333.33	416.66
50,000	1041	32	5.21	7.80	10.42	20.83	31.25	52.08	104.17	208.33	312.50	416.67	520.82
100,000	2083	16	10.42	15.60	20.83	41.66	62.50	104.17	208.33	416.66	625.00	833.33	1041.66

BAR-CORN.—70 LBS. TO BUSHEL.

Table showing weight of 10,000 lbs. or over. Also prices of same.

Weight	BusHELs	Lbs.	$\frac{1}{2}c$	$\frac{3}{4}c$	1c	2c	3c	5c	10c	20c	30c	40c	50c
10,000	142	60	.71	1.07	1.43	2.85	4.28	7.14	14.28	28.57	42.86	57.15	71.43
20,000	285	50	1.43	2.14	2.86	5.71	8.57	14.28	28.57	57.15	85.72	114.28	142.86
30,000	428	40	2.14	3.21	4.28	8.57	12.86	21.42	42.86	85.72	128.57	171.43	214.28
40,000	571	30	2.86	4.28	5.71	11.42	17.14	28.56	57.14	114.29	171.43	228.57	285.72
50,000	714	20	3.57	5.35	7.14	14.28	21.43	35.71	71.43	142.86	214.29	285.72	357.14
100,000	1428	40	7.14	10.70	14.28	28.57	42.86	71.42	142.86	285.72	428.57	571.43	714.28

NOTE: To get 12,000 lbs. of any of above, turn to table and get 2,600 and add 10,000. To get prices add all items as explained at beginning of table.

RECEIPTS.—A receipt is an acknowledgment in writing that a certain sum of money, or thing, has been received by the party signing it. It should contain the following: A statement that payment has been received; Date of payment; Amount or article; From whom received (if for another, on whose behalf payment is made); To what debt it is to be applied; By whom received, and if for another, mention the name of the party. Carelessly drawn receipts are responsible for a great deal of litigation.

The following is the usual form of receipt.

\$175.10

HARRISBURG, Pa., Oct. 26, 1907.

Received from J. H. S. Barnes One Hundred and Seventy-Five Dollars and Ten Cents, in full for one year's interest due this day on his mortgage to me, dated October 26, 1905, for Three Thousand Dollars.

H. O. BOND.

DON'T SIGN A PAPER FOR A STRANGER.

PRICE TABLE FOR ARTICLES SOLD BY 100 LBS.

Useful for Cotton Pickers, Feed, Ice, Stone, Meat, Flour, etc.
 Example: What is the price of 560 lbs of Cotton at 95c. per cwt. Answer: 500 at 95=4.75, 60 at 95=5.7. Total \$5.32. Proceed in like manner for price of any commodity sold by cwt.

Pounds	5c	10c	25c	50c	55c	60c	65c	70c	75c	80c	85c	90c	95c	\$1.00
5	.00	.00	.00	.01	.01	.01	.02	.02	.02	.02	.03	.03	.03	.03
6	.00	.00	.01	.03	.03	.03	.04	.04	.04	.04	.05	.05	.05	.05
10	.00	.01	.03	.05	.06	.06	.07	.08	.08	.08	.09	.09	.09	.09
15	.01	.02	.04	.08	.08	.09	.10	.11	.11	.12	.13	.14	.14	.14
20	.01	.02	.05	.10	.11	.12	.13	.14	.15	.16	.17	.18	.19	.19
25	.01	.03	.06	.13	.14	.15	.16	.18	.19	.20	.21	.23	.24	.24
30	.02	.03	.08	.15	.17	.18	.20	.21	.23	.24	.26	.27	.29	.29
35	.02	.04	.09	.18	.19	.21	.23	.25	.26	.28	.30	.32	.33	.33
40	.02	.04	.10	.20	.22	.24	.26	.28	.30	.32	.34	.36	.38	.40
45	.02	.05	.11	.23	.25	.27	.29	.32	.34	.36	.38	.41	.43	.45
50	.03	.05	.13	.25	.28	.30	.33	.35	.38	.40	.43	.45	.48	.50
55	.03	.06	.14	.28	.30	.33	.36	.39	.41	.44	.47	.50	.52	.55
60	.03	.06	.15	.30	.33	.36	.39	.42	.45	.48	.51	.54	.57	.60
65	.04	.07	.16	.33	.36	.39	.42	.46	.49	.52	.55	.59	.62	.65
70	.04	.07	.18	.35	.39	.42	.46	.49	.53	.56	.60	.63	.67	.70
75	.04	.08	.19	.38	.41	.45	.49	.56	.60	.64	.68	.72	.76	.75
80	.04	.08	.20	.40	.44	.48	.52	.56	.60	.64	.68	.72	.76	.80
85	.04	.09	.21	.43	.47	.51	.55	.60	.64	.68	.72	.77	.81	.85
90	.05	.09	.23	.45	.50	.54	.59	.63	.68	.72	.77	.81	.86	.90
95	.05	.10	.24	.48	.52	.57	.62	.67	.71	.76	.81	.86	.90	.95
100	.05	.10	.25	.50	.55	.60	.65	.70	.75	.80	.85	.90	.95	1.00
105	.05	.11	.26	.53	.58	.63	.68	.74	.79	.84	.89	.95	1.00	1.05
110	.05	.11	.28	.55	.61	.66	.72	.77	.83	.88	.94	.99	1.05	1.10
115	.06	.12	.29	.58	.63	.69	.75	.81	.86	.92	.98	1.04	1.09	1.15
120	.06	.12	.30	.60	.66	.72	.78	.84	.90	.96	1.02	1.08	1.14	1.20
125	.06	.13	.31	.63	.69	.75	.81	.88	.94	1.00	1.06	1.13	1.19	1.25
130	.07	.13	.33	.65	.72	.78	.85	.91	.98	1.04	1.11	1.17	1.24	1.30
135	.07	.14	.34	.68	.74	.81	.88	.95	1.01	1.08	1.15	1.22	1.28	1.35

PRICE TABLE FOR ARTICLES SOLD BY 100 LBS. (Continued)

Pounds	5c	10c	25c	50c	55c	60c	65c	70c	75c	80c	85c	90c	95c	\$1.00
140	.07	.14	.35	.70	.77	.84	.91	.98	1.05	1.12	1.19	1.26	1.33	1.40
145	.07	.15	.36	.73	.80	.87	.94	1.02	1.09	1.16	1.23	1.31	1.38	1.45
150	.08	.15	.38	.75	.83	.90	.98	1.05	1.13	1.20	1.28	1.35	1.43	1.50
155	.08	.16	.39	.78	.85	.93	1.01	1.09	1.16	1.24	1.32	1.40	1.48	1.55
160	.08	.16	.40	.80	.88	.96	1.04	1.12	1.20	1.28	1.36	1.44	1.52	1.60
165	.09	.17	.41	.83	.91	.99	1.07	1.16	1.24	1.32	1.40	1.49	1.57	1.65
170	.09	.17	.43	.85	.94	1.02	1.10	1.19	1.28	1.36	1.45	1.53	1.62	1.70
175	.09	.18	.44	.88	.96	1.05	1.14	1.23	1.31	1.40	1.49	1.58	1.66	1.75
180	.09	.18	.45	.90	.99	1.08	1.17	1.26	1.35	1.44	1.53	1.62	1.71	1.80
185	.09	.19	.46	.93	1.02	1.11	1.20	1.30	1.39	1.48	1.57	1.67	1.76	1.85
190	.10	.19	.48	.95	1.05	1.14	1.24	1.33	1.43	1.52	1.62	1.71	1.81	1.90
195	.10	.20	.49	.98	1.07	1.17	1.27	1.37	1.46	1.56	1.66	1.76	1.85	1.95
200	.10	.20	.50	1.00	1.10	1.20	1.30	1.40	1.50	1.60	1.70	1.80	1.90	2.00
300	.15	.30	.75	1.50	1.65	1.80	1.95	2.10	2.25	2.40	2.55	2.70	2.85	3.00
400	.20	.40	1.00	2.00	2.20	2.40	2.60	2.80	3.00	3.20	3.40	3.60	3.80	4.00
500	.25	.50	1.25	2.50	2.75	3.00	3.25	3.50	3.75	4.00	4.25	4.50	4.75	5.00
1000	.50	1.00	2.50	5.00	5.50	6.00	6.50	7.00	7.50	8.00	8.50	9.00	9.50	10.00

PROMISSORY NOTE.—A Promissory Note is a simple written promise to pay a certain party, or their order, a certain sum of money at a certain time. The following is the form in general use:

\$250.00
 Six months after date I promise to pay to J. B. Brown & Co., or order, Two Hundred and Fifty Dollars, at my office, 214 State St.
 KEOKUK, IOWA, Nov. 26, 1907.
 W. H. SMITH.

A note to be negotiable must contain these five requisites:
 1. Date of payment must be certain to come; 2. Must contain

name of party and "or order," "or bearer"; 3. Amount must be specified; 4. Must be payable in money; 5. Must be an unconditional promise.

When the person who is giving the note is unable to write, he can sign by making his mark, this being witnessed and the witness signing his name and address, in this manner:

PETER X JACKSON.
 his mark

Witness: THOMAS WALTON,
 John-on City, Ill.

PRICE TABLE FOR COTTON SELLERS.

Example: How much will Bale of Cotton weighing 404 lbs. amount to at 11¢. per lb.

Answer: Look down weight column to 4, add together the amounts under $\frac{1}{8}$, 1, and 10; then down to 400 and add amounts under same figures and total is price. Thus, .3, .4, .40, 2.50, 4.00 and 40.00 total \$46.97. Proceed in like manner for any weight or price.

Weight	$\frac{1}{8}$ c	$\frac{1}{4}$ c	$\frac{3}{8}$ c	$\frac{1}{2}$ c	$\frac{5}{8}$ c	$\frac{3}{4}$ c	$\frac{7}{8}$ c	1c	2c	3c	4c	5c	10c
1	$\frac{1}{8}$	$\frac{1}{4}$	$\frac{3}{8}$	$\frac{1}{2}$	$\frac{5}{8}$	$\frac{3}{4}$	$\frac{7}{8}$	.01	.02	.03	.04	.05	.10
2	$\frac{1}{8}$	$\frac{1}{4}$	$\frac{3}{8}$	$\frac{1}{2}$	$\frac{5}{8}$	$\frac{3}{4}$	$\frac{7}{8}$	.02	.04	.06	.08	.10	.20
3	$\frac{1}{8}$	$\frac{1}{4}$	$\frac{3}{8}$	$\frac{1}{2}$	$\frac{5}{8}$	$\frac{3}{4}$	$\frac{7}{8}$	.03	.06	.09	.12	.15	.30
4	$\frac{1}{8}$	$\frac{1}{4}$	$\frac{3}{8}$	$\frac{1}{2}$	$\frac{5}{8}$	$\frac{3}{4}$	$\frac{7}{8}$	.04	.08	.12	.16	.20	.40
5	$\frac{1}{8}$	$\frac{1}{4}$	$\frac{3}{8}$	$\frac{1}{2}$	$\frac{5}{8}$	$\frac{3}{4}$	$\frac{7}{8}$	.05	.10	.15	.20	.25	.50
6	$\frac{1}{8}$	$\frac{1}{4}$	$\frac{3}{8}$	$\frac{1}{2}$	$\frac{5}{8}$	$\frac{3}{4}$	$\frac{7}{8}$	.06	.12	.18	.24	.30	.60
7	$\frac{1}{8}$	$\frac{1}{4}$	$\frac{3}{8}$	$\frac{1}{2}$	$\frac{5}{8}$	$\frac{3}{4}$	$\frac{7}{8}$	.07	.14	.21	.28	.35	.70
8	$\frac{1}{8}$	$\frac{1}{4}$	$\frac{3}{8}$	$\frac{1}{2}$	$\frac{5}{8}$	$\frac{3}{4}$	$\frac{7}{8}$	.08	.16	.24	.32	.40	.80
9	$\frac{1}{8}$	$\frac{1}{4}$	$\frac{3}{8}$	$\frac{1}{2}$	$\frac{5}{8}$	$\frac{3}{4}$	$\frac{7}{8}$	.09	.18	.27	.36	.45	.90
10	$\frac{1}{8}$	$\frac{1}{4}$	$\frac{3}{8}$	$\frac{1}{2}$	$\frac{5}{8}$	$\frac{3}{4}$	$\frac{7}{8}$	.10	.20	.30	.40	.50	1.00
15	$\frac{1}{8}$	$\frac{1}{4}$	$\frac{3}{8}$	$\frac{1}{2}$	$\frac{5}{8}$	$\frac{3}{4}$	$\frac{7}{8}$	.15	.30	.45	.60	.75	1.50
20	$\frac{1}{8}$	$\frac{1}{4}$	$\frac{3}{8}$	$\frac{1}{2}$	$\frac{5}{8}$	$\frac{3}{4}$	$\frac{7}{8}$	.20	.40	.60	.80	1.00	2.00
25	$\frac{1}{8}$	$\frac{1}{4}$	$\frac{3}{8}$	$\frac{1}{2}$	$\frac{5}{8}$	$\frac{3}{4}$	$\frac{7}{8}$	.25	.50	.75	.80	1.25	2.50
30	$\frac{1}{8}$	$\frac{1}{4}$	$\frac{3}{8}$	$\frac{1}{2}$	$\frac{5}{8}$	$\frac{3}{4}$	$\frac{7}{8}$	.30	.60	.90	1.20	1.50	3.00
35	$\frac{1}{8}$	$\frac{1}{4}$	$\frac{3}{8}$	$\frac{1}{2}$	$\frac{5}{8}$	$\frac{3}{4}$	$\frac{7}{8}$	.35	.70	1.05	1.40	1.75	3.50
40	$\frac{1}{8}$	$\frac{1}{4}$	$\frac{3}{8}$	$\frac{1}{2}$	$\frac{5}{8}$	$\frac{3}{4}$	$\frac{7}{8}$	.40	.80	1.20	1.60	2.00	4.00
45	$\frac{1}{8}$	$\frac{1}{4}$	$\frac{3}{8}$	$\frac{1}{2}$	$\frac{5}{8}$	$\frac{3}{4}$	$\frac{7}{8}$	.45	.90	1.35	1.80	2.25	4.50
50	$\frac{1}{8}$	$\frac{1}{4}$	$\frac{3}{8}$	$\frac{1}{2}$	$\frac{5}{8}$	$\frac{3}{4}$	$\frac{7}{8}$	.50	1.00	1.50	2.00	2.50	5.00
55	$\frac{1}{8}$	$\frac{1}{4}$	$\frac{3}{8}$	$\frac{1}{2}$	$\frac{5}{8}$	$\frac{3}{4}$	$\frac{7}{8}$	.55	1.10	1.65	2.20	2.75	5.50
60	$\frac{1}{8}$	$\frac{1}{4}$	$\frac{3}{8}$	$\frac{1}{2}$	$\frac{5}{8}$	$\frac{3}{4}$	$\frac{7}{8}$	.60	1.20	1.80	2.40	3.00	6.00
65	$\frac{1}{8}$	$\frac{1}{4}$	$\frac{3}{8}$	$\frac{1}{2}$	$\frac{5}{8}$	$\frac{3}{4}$	$\frac{7}{8}$	.65	1.30	1.95	2.60	3.25	6.50
70	$\frac{1}{8}$	$\frac{1}{4}$	$\frac{3}{8}$	$\frac{1}{2}$	$\frac{5}{8}$	$\frac{3}{4}$	$\frac{7}{8}$	.70	1.40	2.10	2.80	3.50	7.00
75	$\frac{1}{8}$	$\frac{1}{4}$	$\frac{3}{8}$	$\frac{1}{2}$	$\frac{5}{8}$	$\frac{3}{4}$	$\frac{7}{8}$	.75	1.50	2.25	3.00	3.75	7.50
80	$\frac{1}{8}$	$\frac{1}{4}$	$\frac{3}{8}$	$\frac{1}{2}$	$\frac{5}{8}$	$\frac{3}{4}$	$\frac{7}{8}$	.80	1.60	2.40	3.20	4.00	8.00
85	$\frac{1}{8}$	$\frac{1}{4}$	$\frac{3}{8}$	$\frac{1}{2}$	$\frac{5}{8}$	$\frac{3}{4}$	$\frac{7}{8}$	.85	1.70	2.55	3.40	4.25	8.50
90	$\frac{1}{8}$	$\frac{1}{4}$	$\frac{3}{8}$	$\frac{1}{2}$	$\frac{5}{8}$	$\frac{3}{4}$	$\frac{7}{8}$	.90	1.80	2.70	3.60	4.50	9.00
95	$\frac{1}{8}$	$\frac{1}{4}$	$\frac{3}{8}$	$\frac{1}{2}$	$\frac{5}{8}$	$\frac{3}{4}$	$\frac{7}{8}$	.95	1.90	2.85	3.80	4.75	9.50
100	$\frac{1}{8}$	$\frac{1}{4}$	$\frac{3}{8}$	$\frac{1}{2}$	$\frac{5}{8}$	$\frac{3}{4}$	$\frac{7}{8}$	1.00	2.00	3.00	4.00	5.00	10.00

PRICE TABLE FOR COTTON SELLERS. (Continued)

Weight	$\frac{1}{8}c$	$\frac{1}{4}c$	$\frac{3}{8}c$	$\frac{1}{2}c$	$\frac{5}{8}c$	$\frac{3}{4}c$	$\frac{7}{8}c$	1c	2c	3c	4c	5c	10c
200	.25	.50	.75	1.00	1.25	1.50	1.75	2.00	4.00	6.00	8.00	10.00	20.00
300	.38	.75	1.13	1.50	1.88	2.25	2.63	3.00	6.00	9.00	12.00	15.00	30.00
400	.50	1.00	1.50	2.00	2.50	3.00	3.50	4.00	8.00	12.00	16.00	20.00	40.00
500	.63	1.25	1.88	2.50	3.13	3.75	4.38	5.00	10.00	15.00	20.00	25.00	50.00
600	.75	1.50	2.25	3.00	3.75	4.50	5.25	6.00	12.00	18.00	24.00	30.00	60.00
700	.88	1.75	2.63	3.50	4.38	5.25	6.12	7.00	14.00	21.00	28.00	35.00	70.00

CIVIL SERVICE LAW

In order to have better service and securemen according to their fitness, rather than political pull, Congress some years ago passed the Civil Service Law, which provides a system of competitive examinations, and the competitors are required to be examined on the following subjects: 1. Spelling, Penmanship, and Copying. 2. Arithmetic—fundamental rules, fractions, and percentage. 3. Interests, Discounts, and the elements of Book-keeping and Accounts. 4. Elements of the English language, better writing, and the proper construction of sentences. 5. Geography, History, and Government of the U. S. Every applicant must furnish proof of good moral character and good health.

A standing of 65 per cent in the first three branches above mentioned is necessary.

There is a Board of Examiners in all the large cities, and several examinations are held each year.

Anyone desiring to enter can get complete information, full instructions, sets of papers, and the time and place for holding the examinations by addressing "Civil Service Commissioner, Washington, D. C.

DENATURED ALCOHOL

Denatured Alcohol is ordinary alcohol to which has been added wood-alcohol and benzine, or pyridin, which makes it absolutely useless as a beverage, or so that it can only be used for heat and light. Alcohol will be completely denatured under either of the following formulas: To every 100 gallons of ethyl alcohol (of not less than 180° proof) there shall be added 10 gallons of wood alcohol and one-half gallon of benzine. Or, to every 100 gallons of ethyl alcohol (of not less than 180° proof) there shall be added 2 gallons of approved wood-alcohol and one-half gallon of approved pyridin bases.

The fermentable matter in the principal grains, fruits, etc., is as follows: Rice, 78%; corn, rye and spelt, 70%; barley, 68%; artichokes, 17%; cassava, 35%; white or Irish potatoes, 20%; sweet potatoes, 25%; turnips, 10%; sugar cane, 12%; sugar beets, 15%; sorghum, 12%; sorghum seed, 70%; cornstalks, 5%; sweet cornstalks and cobs, 8%; all varieties of fruits from 5 to 30%; waste molasses from cane and beet sugar factories about 80%.

(See further article on denatured alcohol in this book.)

INTEREST TABLE

SIX PER CENT

Time.	\$1	\$2	\$3	\$4	\$5	\$6	\$7	\$8	\$9	\$10	\$100	\$1,000
1 day.	0	0	0	0	0	0	0	0	0	0	2	17
2 days.	0	0	0	0	0	0	0	0	0	0	3	33
3 days.	0	0	0	0	0	0	0	0	0	1	5	50
4 days.	0	0	0	0	0	0	0	1	1	1	7	67
5 days.	0	0	0	0	0	1	1	1	1	1	8	83
6 days.	0	0	0	0	1	1	1	1	1	1	10	1.00
7 days.	0	0	0	0	1	1	1	1	1	1	12	1.17
8 days.	0	0	0	1	1	1	1	1	1	1	13	1.33
9 days.	0	0	0	1	1	1	1	1	1	2	15	1.50
10 days.	0	0	1	1	1	1	1	1	2	2	17	1.67
11 days.	0	0	1	1	1	1	1	1	2	2	18	1.83
12 days.	0	0	1	1	1	1	1	2	2	2	20	2.00
13 days.	0	0	1	1	1	1	2	2	2	2	22	2.17
14 days.	0	0	1	1	1	1	2	2	2	2	23	2.33
15 days.	0	1	1	1	1	2	2	2	2	3	25	2.50
16 days.	0	1	1	1	1	2	2	2	2	3	27	2.67
17 days.	0	1	1	1	1	2	2	2	3	3	28	2.83
18 days.	0	1	1	1	2	2	2	2	3	3	30	3.00
19 days.	0	1	1	1	2	2	2	3	3	3	32	3.17
20 days.	0	1	1	1	2	2	2	3	3	3	33	3.33
21 days.	0	1	1	1	2	2	2	3	3	4	35	3.50
22 days.	0	1	1	1	2	2	3	3	3	4	37	3.67
23 days.	0	1	1	2	2	2	3	3	3	4	38	3.83
24 days.	0	1	1	2	2	2	3	3	4	4	40	4.00
25 days.	0	1	1	2	2	3	3	3	4	4	42	4.17
26 days.	0	1	1	2	2	3	3	3	4	4	43	4.33
27 days.	0	1	1	2	2	3	3	4	4	5	45	4.50
28 days.	0	1	1	2	2	3	3	4	4	5	47	4.67
29 days.	0	1	1	2	2	3	3	4	4	5	48	4.83
1 month.	1	1	2	2	3	3	4	4	5	5	50	5.00
2 months.	1	2	3	4	5	6	7	8	9	10	1.00	10.00
3 months.	2	3	5	6	8	9	11	12	14	15	1.50	15.00
4 months.	2	4	6	8	10	12	14	16	18	20	2.00	20.00
5 months.	3	5	8	10	13	15	18	20	23	25	2.50	25.00
6 months.	3	6	9	12	15	18	21	24	27	30	3.00	30.00
7 months.	4	7	11	14	18	21	25	28	32	35	3.50	35.00
8 months.	4	8	12	16	20	24	28	32	36	40	4.00	40.00
9 months.	5	9	14	18	23	27	32	36	41	45	4.50	45.00
10 months.	5	10	15	20	25	30	35	40	45	50	5.00	50.00
11 months.	6	11	17	22	28	33	39	44	50	55	5.50	55.00
1 year.	6	12	18	24	30	36	42	48	54	60	6.00	60.00

EXPLANATION OF THE INTEREST TABLES.

EXAMPLE.

Desired to obtain the interest on \$1,111.00 for 1 year, 4 months and 27 days at 6 per cent.

Turning to the tables you will see that the time is given in the left hand column, the amounts on which you desire to find the interest are given at the heads of the various right hand columns, the sum sought is found at the meeting of the lines to the right of the time and down from the amount, as follows:

The interest on	\$1,000, 1 year, at 6 per cent.....	\$60.00
The interest on	100, 1 year, at 6 per cent.....	6.00
The interest on	10, 1 year, at 6 per cent.....	.60
The interest on	1, 1 year, at 6 per cent.....	.06
The interest on	1,000, 4 months, at 6 per cent.....	20.00
The interest on	100, 4 months, at 6 per cent.....	2.00
The interest on	10, 4 months, at 6 per cent.....	.20
The interest on	1, 4 months, at 6 per cent.....	.02
The interest on	1,000, 27 days, at 6 per cent.....	4 50

INTEREST TABLE

SEVEN PER CENT

Time.....	\$1	\$2	\$3	\$4	\$5	\$6	\$7	\$8	\$9	\$10	\$100	\$1,000
1 day.....	0	0	0	0	0	0	0	0	0	0	2	19
2 days.....	0	0	0	0	0	0	0	0	0	0	4	39
3 days.....	0	0	0	0	0	0	0	0	1	1	6	58
4 days.....	0	0	0	0	0	0	1	1	1	1	8	78
5 days.....	0	0	0	0	0	1	1	1	1	1	10	97
6 days.....	0	0	0	0	1	1	1	1	1	1	12	1.17
7 days.....	0	0	0	1	1	1	1	1	1	1	14	1.36
8 days.....	0	0	0	1	1	1	1	1	1	2	16	1.56
9 days.....	0	0	1	1	1	1	1	1	2	2	18	1.75
10 days.....	0	0	1	1	1	1	1	2	2	2	19	1.94
11 days.....	0	0	1	1	1	1	1	2	2	2	21	2.14
12 days.....	0	0	1	1	1	1	2	2	2	2	23	2.33
13 days.....	0	1	1	1	1	2	2	2	2	3	25	2.53
14 days.....	0	1	1	1	1	2	2	2	2	3	27	2.72
15 days.....	0	1	1	1	1	2	2	2	3	3	29	2.92
16 days.....	0	1	1	1	2	2	2	2	3	3	31	3.11
17 days.....	0	1	1	1	2	2	2	3	3	3	33	3.31
18 days.....	0	1	1	1	2	2	2	3	3	4	35	3.50
19 days.....	0	1	1	1	2	2	3	3	3	4	37	3.69
20 days.....	0	1	1	2	2	2	3	3	4	4	39	3.89
21 days.....	0	1	1	2	2	2	3	3	4	4	41	4.08
22 days.....	0	1	1	2	2	2	3	3	4	4	43	4.28
23 days.....	0	1	1	2	2	3	3	4	4	4	45	4.47
24 days.....	0	1	1	2	2	3	3	4	4	5	47	4.67
25 days.....	0	1	1	2	2	3	3	4	4	5	49	4.86
26 days.....	1	1	2	2	3	3	4	4	5	5	51	5.06
27 days.....	1	1	2	2	3	3	4	4	5	5	53	5.25
28 days.....	1	1	2	2	3	3	4	4	5	5	54	5.44
29 days.....	1	1	2	2	3	3	4	5	5	6	56	5.64
1 month.....	1	1	2	2	3	4	4	5	5	6	58	5.83
2 months.....	1	2	4	5	6	7	8	9	11	12	1.17	11.67
3 months.....	2	4	5	7	9	11	12	14	16	18	1.75	17.50
4 months.....	2	5	7	9	12	14	16	19	21	23	2.33	23.33
5 months.....	3	6	9	12	15	18	20	23	26	29	2.92	29.17
6 months.....	4	7	11	14	18	21	25	28	32	35	3.50	35.00
7 months.....	4	8	12	16	20	25	29	33	37	41	4.08	40.83
8 months.....	5	9	14	17	23	28	33	37	42	47	4.67	46.67
9 months.....	5	11	16	21	26	32	37	42	47	53	5.25	52.50
10 months.....	6	12	18	23	29	35	41	47	53	58	5.83	58.33
11 months.....	6	13	19	26	32	39	45	51	58	64	6.42	64.17
1 year.....	7	14	21	28	35	42	49	56	63	70	7.00	70.00

The interest on	\$100, 27 days, at 6 per cent.....	.45
The interest on	10, 27 days, at 6 per cent.....	.05
The interest on	1, 27 days, at 6 per cent.....	.00

Whole sum of interest sought.....\$93.88

In the same manner proceed with any other amounts, or any other time, or rate per cent; and if for more than one year, multiply the interest for 1 year by the number of years for which the interest is sought; if for twenty, thirty, sixty, or any other amount between ten and one hundred dollars, multiply the interest on ten dollars by the number of tens in the amount, which gives you the whole sum of interest sought; the same rule holds good on hundreds, between one hundred and one thousand, and also on thousands.

To find interest at 5 per cent, take one-half of the 10 per cent rate.

And, of course, the principle works the same on all of the tables for the different rates of per cent.

INTEREST TABLE

EIGHT PER CENT

Time.....	\$1	\$2	\$3	\$4	\$5	\$6	\$7	\$8	\$9	\$10	\$100	\$1,000
1 day.....	0	0	0	0	0	0	0	0	0	0	2	22
2 days.....	0	0	0	0	0	0	0	0	0	0	4	44
3 days.....	0	0	0	0	0	0	0	1	1	1	7	67
4 days.....	0	0	0	0	0	1	1	1	1	1	9	89
5 days.....	0	0	0	0	1	1	1	1	1	1	11	1.11
6 days.....	0	0	0	1	1	1	1	1	1	1	13	1.33
7 days.....	0	0	0	1	1	1	1	1	1	2	16	1.56
8 days.....	0	0	1	1	1	1	1	1	2	2	18	1.78
9 days.....	0	0	1	1	1	1	1	2	2	2	20	2.00
10 days.....	0	0	1	1	1	1	2	2	2	2	22	2.22
11 days.....	0	0	1	1	1	1	2	2	2	2	24	2.44
12 days.....	0	1	1	1	1	2	2	2	2	3	27	2.67
13 days.....	0	1	1	1	1	2	2	2	3	3	29	2.89
14 days.....	0	1	1	1	2	2	2	2	3	3	31	3.11
15 days.....	0	1	1	1	2	2	2	3	3	3	33	3.33
16 days.....	0	1	1	1	2	2	2	3	3	4	36	3.56
17 days.....	0	1	1	2	2	2	3	3	3	4	38	3.78
18 days.....	0	1	1	2	2	2	3	3	4	4	40	4.00
19 days.....	0	1	1	2	2	3	3	3	4	4	42	4.22
20 days.....	0	1	1	2	2	3	3	4	4	4	44	4.44
21 days.....	0	1	1	2	2	3	3	4	4	5	47	4.67
22 days.....	0	1	1	2	2	3	3	4	4	5	49	4.89
23 days.....	1	1	2	2	3	3	4	4	5	5	51	5.11
24 days.....	1	1	2	2	3	3	4	4	5	5	53	5.33
25 days.....	1	1	2	2	3	3	4	4	5	6	56	5.56
26 days.....	1	1	2	2	3	3	4	5	5	6	58	5.78
27 days.....	1	1	2	2	3	4	4	5	5	6	60	6.00
28 days.....	1	1	2	2	3	4	4	5	6	6	62	6.22
29 days.....	1	1	2	3	3	4	5	5	6	6	64	6.44
1 month.....	1	1	2	3	3	4	5	5	6	7	67	6.67
2 months.....	1	3	4	5	7	8	9	11	12	13	1.33	13.33
3 months.....	2	4	6	8	10	12	14	16	18	20	2.00	20.00
4 months.....	3	5	8	11	13	16	19	21	24	27	2.67	26.67
5 months.....	3	7	10	13	17	20	23	27	30	33	3.33	33.33
6 months.....	4	8	12	16	20	24	28	32	36	40	4.00	40.00
7 months.....	5	9	14	19	23	28	33	37	42	47	4.67	46.00
8 months.....	5	11	16	21	27	32	37	43	48	53	5.33	53.33
9 months.....	6	12	18	24	30	36	42	48	54	60	6.00	60.00
10 months.....	7	13	20	27	33	40	47	53	60	67	6.67	66.67
11 months.....	7	15	22	29	37	44	51	59	66	73	7.33	73.33
1 year.....	8	16	24	32	40	48	56	64	72	80	8.00	80.00

RULES FOR MEASURING CORN IN CRIB, VEGE-TABLES, ETC., AND HAY IN MOW.—This rule will apply to a crib of any size or kind. Two cubic feet of good, sound, dry corn in the ear will make a bushel of shelled corn. To get, then, the quantity of shelled corn in a crib of corn in the ear, measure the length, breadth and height of the crib, inside the rail; multiply the length by the breadth and the product by the height; then divide the product by two, and you have the number of bushels of shelled corn in the crib.

To find the number of bushels of apples, potatoes, etc., in a bin, multiply the length, breadth and thickness together, and this product by eight, and point off one figure in the product for decimals.

To find the amount of hay in a mow, allow 512 cubic feet for a ton, and it will come out very generally correct.

INTEREST TABLE

NINE PER CENT

Time.....	\$1	\$2	\$3	\$4	\$5	\$6	\$7	\$8	\$9	\$10	\$100	\$1,000
1 day.....	0	0	0	0	0	0	0	0	0	0	3	25
2 days.....	0	0	0	0	0	0	0	0	0	0	5	50
3 days.....	0	0	0	0	0	0	1	1	1	1	8	75
4 days.....	0	0	0	0	1	1	1	1	1	1	10	1.00
5 days.....	0	0	0	1	1	1	1	1	1	1	13	1.25
6 days.....	0	0	0	1	1	1	1	1	1	2	15	1.50
7 days.....	0	0	1	1	1	1	1	1	2	2	18	1.75
8 days.....	0	0	1	1	1	1	1	2	2	2	20	2.00
9 days.....	0	0	1	1	1	1	2	2	2	2	23	2.25
10 days.....	0	1	1	1	1	2	2	2	2	3	25	2.50
11 days.....	0	1	1	1	1	2	2	2	2	3	28	2.75
12 days.....	0	1	1	1	2	2	2	2	3	3	30	3.00
13 days.....	0	1	1	1	2	2	2	3	3	3	33	3.25
14 days.....	0	1	1	1	2	2	2	3	3	4	35	3.50
15 days.....	0	1	1	2	2	2	3	3	3	4	38	3.75
16 days.....	0	1	1	2	2	2	3	3	4	4	40	4.00
17 days.....	0	1	1	2	2	3	3	3	4	4	43	4.25
18 days.....	0	1	1	2	2	3	3	4	4	5	45	4.50
19 days.....	0	1	1	2	2	3	3	4	4	5	48	4.75
20 days.....	1	1	2	2	3	3	4	4	5	5	50	5.00
21 days.....	1	1	2	2	3	3	4	4	5	5	53	5.25
22 days.....	1	1	2	2	3	3	4	4	5	6	55	5.50
23 days.....	1	1	2	2	3	3	4	5	5	6	58	5.75
24 days.....	1	1	2	2	3	4	4	5	5	6	60	6.00
25 days.....	1	1	2	3	3	4	4	5	6	6	63	6.25
26 days.....	1	1	2	3	3	4	5	5	6	7	65	6.50
27 days.....	1	1	2	3	3	4	5	5	6	7	68	6.75
28 days.....	1	1	2	3	4	4	5	6	6	7	70	7.00
29 days.....	1	1	2	3	4	4	5	6	7	7	73	7.25
1 month.....	1	2	2	3	4	5	5	6	7	8	75	7.50
2 months.....	2	3	5	6	8	9	11	12	14	15	1.50	15.00
3 months.....	2	5	7	9	11	14	16	18	20	23	2.25	22.50
4 months.....	3	6	9	12	15	18	21	24	27	30	3.00	30.00
5 months.....	4	8	11	15	19	23	26	30	34	38	3.75	37.50
6 months.....	5	9	14	18	23	27	32	36	41	45	4.50	45.00
7 months.....	5	11	16	21	26	32	37	42	47	53	5.25	52.50
8 months.....	6	12	18	24	30	36	42	48	54	60	6.00	60.00
9 months.....	7	14	20	27	34	41	47	54	61	68	6.75	67.50
10 months.....	8	15	23	30	38	45	53	60	68	75	7.50	75.00
11 months.....	8	17	25	33	41	50	58	66	74	83	8.25	82.50
1 year.....	9	18	27	36	45	54	63	72	81	90	9.00	90.00

TO MEASURE BULK WOOD.—To measure a pile of wood, multiply the length by the width, and that product by the height, which will give the number of cubic feet. Divide that product by 128, and the quotient will be the number of cords. A standard cord of wood, it must be remembered, is four feet thick; that is, the wood must be four feet long. Farmers usually go by surface measure, calling a pile of stove wood eight feet long and four feet high a cord. Under such circumstances thirty-two feet would be the divisor.

WEIGHT OF HOGS.—Gross and Net. It is assumed that the gross weight of hogs diminished one-fifth, or 20 per cent of itself, gives the net weight, and the net increased one one-fourth or 25 per cent of itself equals the gross weight. Example: If the gross weight of a load of hogs is 1,800 pounds, the net weight would be one-fifth less, or 360, or 1,440 pounds.

INTEREST TABLE

TEN PER CENT

Time.....	\$1	\$2	\$3	\$4	\$5	\$6	\$7	\$8	\$9	\$10	\$100	\$1,000
1 day.....	0	0	0	0	0	0	0	0	0	0	3	28
2 days.....	0	0	0	0	0	0	0	0	1	1	6	56
3 days.....	0	0	0	0	0	1	1	1	1	1	8	83
4 days.....	0	0	0	0	1	1	1	1	1	1	11	1.11
5 days.....	0	0	0	1	1	1	1	1	1	1	14	1.39
6 days.....	0	0	1	1	1	1	1	1	2	2	17	1.67
7 days.....	0	0	1	1	1	1	1	2	2	2	19	2.94
8 days.....	0	0	1	1	1	1	2	2	2	2	22	2.22
9 days.....	0	1	1	1	1	2	2	2	2	3	25	2.50
10 days.....	0	1	1	1	1	2	2	2	3	3	28	2.78
11 days.....	0	1	1	1	2	2	2	2	3	3	31	3.06
12 days.....	0	1	1	1	2	2	2	3	3	3	33	3.33
13 days.....	0	1	1	1	2	2	3	3	3	4	36	3.61
14 days.....	0	1	1	2	2	2	3	3	4	4	39	3.89
15 days.....	0	1	1	2	2	3	3	3	4	4	42	4.17
16 days.....	0	1	1	2	2	3	3	4	4	4	44	4.44
17 days.....	0	1	1	2	2	3	3	4	4	5	47	4.72
18 days.....	1	1	2	2	3	3	4	4	5	5	50	5.00
19 days.....	1	1	2	2	3	3	4	4	5	5	53	5.28
20 days.....	1	1	2	2	3	3	4	4	5	6	56	5.56
21 days.....	1	1	2	2	3	4	4	5	5	6	58	5.83
22 days.....	1	1	2	2	3	4	4	5	6	6	61	6.11
23 days.....	1	1	2	3	3	4	4	5	6	6	64	6.39
24 days.....	1	1	2	3	3	4	5	5	6	7	67	6.67
25 days.....	1	1	2	3	3	4	5	6	6	7	69	6.94
26 days.....	1	1	2	3	4	4	5	6	7	7	72	7.22
27 days.....	1	2	2	3	4	5	5	6	7	8	75	7.50
28 days.....	1	2	2	3	4	5	5	6	7	8	78	7.78
29 days.....	1	2	2	3	4	5	6	6	7	8	81	8.06
1 month.....	1	2	3	3	4	5	6	7	8	8	83	8.33
2 months.....	2	3	5	7	8	10	12	13	15	17	1.67	16.67
3 months.....	3	5	8	10	15	15	18	20	23	25	2.50	25.00
4 months.....	3	7	10	13	17	20	23	27	30	33	3.33	33.33
5 months.....	4	8	13	17	21	25	29	33	38	42	4.17	41.67
6 months.....	5	10	15	20	25	30	35	40	45	50	5.00	50.00
7 months.....	6	12	18	23	29	35	41	47	53	58	5.83	58.33
8 months.....	7	13	20	27	33	40	47	53	60	67	6.67	66.67
9 months.....	8	15	23	30	38	45	53	60	68	75	7.50	75.00
10 months.....	8	17	25	33	42	50	58	67	75	83	8.33	83.33
11 months.....	9	18	28	37	46	55	64	73	83	92	9.17	91.67
1 year.....	10	20	30	40	50	60	70	80	90	1.00	10.00	100.00

TO MEASURE CASKS OR BARRELS.—Find mean diameter by adding to head diameter two-thirds (if staves are but slightly curved, three-fifths) of difference between head and bung diameters, and dividing by two. Multiply square of mean diameters in inches by .7854, and the product by the height of the cask in inches. The result will be the number of cubic inches. Divide by 231 for standard or wine gallons, and by 282 for beer gallons.

GRAIN MEASURE.—Multiply the depth of the wagon box in inches by 2 and you have the number of bushels. A common wagon-box is about 10 feet long and 3 feet wide and will hold about two bushels for every inch in depth. If the box is 11 feet long multiply by 2 and add 1-10 on the number of bushels to the total. If the head and tail boards are set in on a slant add the top and bottom lengths together and divide by two.

TABLE SHOWING PRICES PER POUND ON COMMODITIES SOLD BY THE TON. FOR EXAMPLE: IF THE PRICE PER TON
\$6.00, THE PRICE FOR 50 POUNDS WILL BE 15 CENTS.

Lbs.	25c.	50c.	\$1	\$2	\$3	\$5	\$6	\$7	\$8	\$9	\$10	\$11	\$12	\$13	\$14	\$15
3	c.	c.	c.	c.	c.	c.	c.	c.	c.	c.	c.	c.	c.	c.	c.	c.
7	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
10	...	...	.01	.01	.01	.01	.01	.01	.01	.01	.02	.02	.02	.02	.02	.02
20	...	...	.01	.01	.02	.02	.02	.02	.03	.03	.04	.04	.04	.05	.05	.05
30	...	.01	.01	.02	.03	.03	.03	.04	.04	.05	.05	.06	.06	.07	.07	.08
50	.01	.01	.02	.03	.05	.08	.09	.11	.12	.14	.15	.17	.18	.13	.14	.15
70	.01	.02	.04	.07	.11	.18	.21	.25	.28	.32	.35	.39	.44	.20	.21	.23
80	.01	.02	.04	.08	.12	.23	.27	.32	.36	.41	.45	.50	.52	.33	.35	.38
90	.01	.03	.05	.10	.15	.25	.30	.35	.40	.45	.50	.55	.60	.46	.49	.53
100	.01	.03	.05	.10	.15	.25	.30	.35	.40	.45	.50	.55	.60	.52	.56	.60
200	.03	.05	.10	.20	.30	.50	.60	.70	.80	.90	1.00	1.10	1.20	.65	.70	.75
300	.04	.08	.15	.30	.45	.75	.90	.70	.80	.90	1.00	1.10	1.20	1.30	1.40	1.50
400	.05	.10	.20	.40	.60	1.00	1.20	1.05	1.20	1.35	1.50	1.65	1.80	1.95	2.10	2.25
500	.06	.13	.25	.50	.75	1.25	1.50	1.40	1.60	1.80	2.00	2.20	2.40	2.60	2.80	3.00
600	.08	.15	.30	.60	.90	1.50	1.80	1.70	2.00	2.25	2.50	2.75	3.00	3.25	3.50	3.75
700	.09	.18	.35	.70	1.05	1.75	2.10	2.45	2.80	3.15	3.50	3.85	4.20	4.55	4.90	5.25
800	.10	.20	.40	.80	1.20	2.00	2.40	2.80	3.20	3.60	4.00	4.40	4.80	5.20	5.60	6.00
900	.11	.23	.45	.90	1.35	2.25	2.70	3.15	3.60	4.05	4.50	4.95	5.40	5.85	6.30	6.75
1000	.13	.25	.50	1.00	1.50	2.50	3.00	3.50	4.00	4.50	5.00	5.50	6.00	6.50	7.00	7.50
1100	.14	.28	.55	1.10	1.65	2.75	3.30	3.85	4.40	4.95	5.50	6.05	6.60	7.15	7.70	8.25
1200	.15	.30	.60	1.20	1.80	3.00	3.60	4.20	4.80	5.40	6.00	6.60	7.20	7.80	8.40	9.00
1300	.16	.33	.65	1.30	1.95	3.25	3.90	4.55	5.20	5.85	6.50	7.15	7.80	8.45	9.10	9.75
1400	.18	.38	.70	1.40	2.10	3.50	4.20	4.90	5.60	6.30	7.00	7.70	8.40	9.10	9.80	10.50
1500	.19	.40	.75	1.50	2.25	3.75	4.50	5.25	6.00	6.75	7.50	8.25	9.00	9.75	10.50	11.25
1600	.20	.40	.80	1.60	2.40	4.00	4.80	5.60	6.40	7.20	8.00	8.80	9.60	10.40	11.20	12.00
1700	.21	.43	.85	1.70	2.55	4.25	5.10	5.95	6.80	7.65	8.50	9.35	10.20	11.05	11.90	12.75
1800	.23	.45	.90	1.80	2.70	4.50	5.40	6.30	7.20	8.10	9.00	9.90	10.80	11.70	12.60	13.50
1900	.24	.48	.95	1.90	2.85	4.75	5.70	6.65	7.60	8.55	9.50	10.45	11.40	12.35	13.30	14.25

TABLE OF WEIGHT PER BUSHEL OF AGRICULTURAL PRODUCTS.

	California.	Canada.	Connecticut.	Dakota.	Delaware.	Illinois.	Indiana.	Iowa.	Kansas.	Kentucky.	Louisiana.	Maine.	Maryland.	Massachusetts.	Michigan.	Minnesota.	Missouri.	Nebraska.	Nevada.	New Brunswick.	New Hampshire.	New Jersey.	New York.	Nova Scotia.	Ohio.	Oregon.	Pennsylvania.	Rhode Island.	Vermont.	Washington.	Wisconsin.
Apples.	50	48	48	48	48	48	48	48	48	48	32	48	48	48	48	48	48	48	50	50	50	48	48	52	48	45	47	48	48	45	48
Barley.	..	..	..	..	..	20	..	20	20	20	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	46	46	..	..	..	..
Bran.	..	..	..	..	..	..	..	30	30	30	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Broom corn seed.	..	..	..	..	..	52	50	52	50	52	..	48	48	48	48	42	52	52	40	50	56	50	48	..	50	42	48	..	46	42	42
Buckwheat.	40	48	48	42	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Carrots.	..	60	55	..	..	..	..	..	..	..	50	50	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Castor beans.	..	40	..	..	..	46	46	46	46	..	..	..	..	..	46	..	46	46	..	..	..	..	..	..	..	..	..	..	..	..	..
Coal, mineral.	..	..	..	..	..	80	*80	80	80	..	..	..	..	..	80	80	80	80	..	..	..	..	..	..	..	..	..	..	..	..	..
Corn, shelled.	52	56	56	56	56	56	56	56	56	56	56	56	56	56	56	56	56	56	52	60	56	56	58	58	56	56	56	56	56	56	56
Corn, in ear	..	..	..	72	..	70	68	70	70	..	..	..	..	..	70	..	70	70	..	..	50	50	..	..	70	56	56	..	..	..	..
Corn meal.	..	50	..	..	..	48	50	..	..	50	..	..	50	50	50	..	..	50	..	..	50	..	..	..	60	..	..	50	..	..	..
Cranberries.	..	..	..	..	..	..	..	..	..	..	..	..	..	..	40	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Dried apples.	..	22	..	..	..	24	25	24	24	..	..	..	..	..	22	28	24	24	..	..	..	..	..	..	25	28	..	..	..	28	28
Dried peaches.	..	33	..	..	..	33	33	33	33	..	..	..	..	..	28	28	33	33	..	..	..	..	..	..	33	28	..	..	..	28	28
Dried plums.	..	..	..	..	..	..	..	..	..	..	..	..	..	..	28	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Flax Seed	..	50	..	..	..	56	..	56	56	56	..	..	..	..	56	..	56	56	..	..	..	55	55	..	56	..	..	..	..	..	56
Grass seed, blue.	..	14	..	..	..	14	14	14	14	..	..	..	..	..	14	..	14	14	..	..	..	..	..	..	..	..	..	..	..	..	..
Grass seed, clover.	..	60	..	60	..	60	60	60	60	60	..	..	..	..	60	60	60	60	..	..	64	60	..	..	62	60	62	60	60	60	60
Grass seed, Hungarian.	..	..	..	..	..	..	..	45	..	..	..	..	..	..	50	..	..	..	..	..	..	..	..	..	50	..	..	..	..	..	..
Grass seed, millet.	..	..	..	..	..	..	..	45	..	..	..	..	..	..	50	..	..	..	..	..	..	..	..	..	50	..	..	..	..	..	..
Grass seed, orchard.	..	..	..	..	..	..	..	..	..	..	..	..	..	..	14	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Grass seed, red top.	..	..	..	..	..	..	..	..	..	..	..	..	..	..	14	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Grass seed, timothy.	..	48	42	..	..	45	45	45	45	45	..	..	..	..	45	..	45	45	..	40	..	..	44	..	45	..	..	..	42	40	46
Hair, plastering.	..	..	..	..	..	8	..	..	..	..	..	..	..	..	44	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Hemp seed	44	..	..	..	..	44	44	44	44	44	..	..	..	..	44	..	44	44	..	..	..	..	..	..	44	..	..	..	..	..	..

TABLE OF WEIGHT PER BUSHEL OF AGRICULTURAL PRODUCTS—Continued

	California.	Canada.	Connecticut.	Dakota.	Delaware.	Illinois.	Indiana.	Iowa.	Kansas.	Kentucky.	Louisiana.	Maine.	Massachusetts.	Michigan.	Minnesota.	Missouri.	Nebraska.	Nevada.	New Brunswick.	New Hampshire.	New Jersey.	New York.	Nova Scotia.	Ohio.	Oregon.	Pennsylvania.	Rhode Island.	Vermont.	Washington.	Wisconsin.
Lime, unslacked																														
Malt		36				80		80															39		34					
Mangel-wurzel		60				38						60																		
Oats	32	34	32	32	32	32		33	32	33	32	30	32	32	32	35	34	32	36	30	30	30	34		33		50	50	50	50
Onions		60	50			57	49	57	57	57		52	52	54		57	57			56										
Onions, top																														
Osage-orange seed								32						33			32			60					60		50			
Parsnips		60	45																						45					
Pears																														
Peas		60	60																											
Potatoes, Irish		60	60																											
Potatoes, sweet		60				55		46																						
Rutabaga		54	56	56		56	56	56	56	56	32	56	56	56	56	56	56	54	56	56	56	56	56	56	56	56	56	56	56	56
Rye																														
Salt, coarse																														
Salt, fine						55																								
Salt, ground								130																						
Sand																														
Sugar beets		60	60																											
Turnips		60	50			55																								
Wheat	60	60	60	60	60	60	60	60	60	60	60	60	60	60	60	60	60	60	60	60	60	60	60	60	60	60	60	60	60	60
White beans		60	60	60		60	60	60	60	60	60	64																		

* Mined within the State, 70 lbs.; without the State, 80 lbs.

† Bituminous—Cannel coal, 70 lbs.

Tables of Weights, Dimensions, Etc.

The following tables are generally used and recognized in all markets.

DISTANCE.

3 inches	make 1 palm.
4 inches	make 1 hand.
6 inches	make 1 span.
18 inches	make 1 cubit.
21.8 inches	make 1 Bible cubit.
2½ feet.	make 1 military pace.
3 feet.	make 1 common pace.
3.28 feet.	make 1 metre.

WEIGHT.

3 pounds	make 1 stone butcher's meat.
7 pounds	make 1 clove.
2 cloves	make 1 stone common articles.
2 stone	make 1 tod of wool.
6½ tods.	make 1 wey of wool.
2 weys	make 1 sack of wool.
12 sacks	make 1 last of wool.
240 pounds	make 1 pack of wool.

CLOTH MEASURE.

2½ inches	make 1 nail.
4 nails	make 1 quarter.
4 quarters	make 1 yard.
3 quarters	make 1 Flemish ell.
5 quarters	make 1 English ell.
6 quarters	make 1 French ell.
4½ quarters	make 1 Scotch ell.

DRY MEASURE.

2 quarts	make 1 pottle.
2 bushels	make 1 strike.
2 strikes	make 1 coom.
2 cooms	make 1 quarter.
5 quarters	make 1 load.
3 bushels	make 1 sack.
36 bushels	make 1 chaldron.

WINE MEASURE.

18	United States gallons	make 1 runlet.
25	English gallons, or	} make 1 tierce.
42	United States gallons	
2	tierces	make 1 puncheon.
52½	English gallons.	make 1 hogshead.
63	United States gallons	make 1 hogshead.
2	hogsheads.	make 1 pipe.
2	pipes	make 1 tun.
7½	English gallons.	make 1 firkin of beer.
4	firkins.	make 1 barrel.

TROY WEIGHT.

24 grains (Gr.)	make 1 pennyweight, dwt.
20 pennyweights.	make 1 ounce, oz.
12 ounces	make 1 pound, lb.
3½ grains.	make 1 carat (diamond wt) c.

DRUG WEIGHT.

20 grains (Gr.)	make 1 scruple, sc.
3 scruples	make 1 dram, dr.
8 drams	make 1 ounce, oz.
12 ounces	make 1 pound, lb.

TABLE OF DRY MEASURE.

2 pints (pt.)	make 1 quart (qt.)
8 quarts	make 1 peck (pk.)
4 pecks	make 1 bushel (bu.)
36 bushels	make 1 chaldron (cald.)

CUBIC OR SOLID MEASURE.

1728 cubic inches	make 1 cubic foot.
27 cubic feet	make 1 cubic yard.
40 cubic ft. of round timber or 50 cubic feet of hewn timber	} make 1 ton or load.
8 cubic feet	
16 cord feet or 128 cubic feet	} make 1 cord of wood.
24½ cubic feet	
24½ cubic feet	make 1 perch of stone, or masonry.

SURVEYOR'S LONG MEASURE.

25 links	make 1 rod.
4 rods	make 1 chain.
80 chains	make 1 mile.

SQUARE MEASURE.

144 square inches	make 1 square foot.
9 square feet	make 1 square yard.
30¼ square yards	make 1 square rod.
40 square rods	make 1 rood, or quarter acre.
4 roods	make 1 acre.
640 acres	make 1 square mile or section.

SURVEYOR'S SQUARE MEASURE.

625 square links	make 1 square rod, sq. rd.
16 square rods	make 1 square chain, sq. ch.
10 square chains	make 1 acre, A.
640 acres	make 1 square mile, sq. mi.
36 square miles (6 miles square)	make 1 township, Tp.

TABLES OF CIRCULAR MEASURE, TIME.

Circular Measure.

60 seconds	1 minute.
60 minutes	1 degree.
360 degrees	1 circle.
30 degrees	1 sign of zodiac.
12 signs	1 zodiac circle.
360 degrees, the circumference of the earth.	
24,899 statute miles, circumference of the earth at the equator.	
69.124 statute miles, 1 degree of the equator.	
1.1527 statute miles, 1 geographic mile.	
60 geographic miles, 1 degree.	

C

Measures of Time.

60 seconds	1 minute.
60 minutes	1 hour.
24 hours	1 day.
7 days	1 week.
28 days	1 lunar month.
28, 29, 30 or 31 days	1 calendar month.
12 calendar months	1 year.
365.25 days	1 common year.
366 days	1 leap year.

WINE OR BEER MEASURE.

4 gills	.....	make 1 pint, pt.
2 pints	.....	make 1 quart, qt.
4 quarts	.....	make 1 gallon, gal.
31½ gallons	.....	make 1 barrel, bbl.
2 barrels	{	make 1 hogshead, hh.
63 gallons		

LIQUID MEASURE—Apothecaries.

60 minims	.....	1 fluid drachm.
8 fluid drachms	.....	1 fluid ounce.
16 fluid ounces	.....	1 fluid pint.
8 pints	.....	1 gallon.

AVOIRDUPOIS WEIGHT.

16 drams (dr.)	.....	equal 1 ounce, oz.
16 ounces	.....	equal 1 pound, lb.
25 pounds	.....	equal 1 quarter, qr.
4 quarters	.....	equal 1 hundredweight, cwt.
20 hundredweight	.....	equal 1 ton, t.
100 pounds	.....	equal 1 cental, c.

MONEY OF THE UNITED STATES COMPUTED BY THE DECIMAL SYSTEM.

10 mills (m.)	1 cent, ct.	
10 cents	1 dime, d.	100 mills.
10 dimes	1 dollar,	\$ 1000 mills 100 cents.
10 dollars	1 eagle E.	10000 mills 1000 cents 100 dimes.
1 eagle (gold) weighs	258	troy grains.
1 dollar (silver) weighs	412.5	troy grains.
1 cent (copper) weighs	168	troy grains
23.2 grains of pure gold	equal \$1.00.	

WEIGHT OF VARIOUS SUBSTANCES PER CUBIC FOOT.

Name.	Pounds.	Name.	Pounds.
Air	0.0753	Portland stone	157.5
Cork	15	Clay and stones	160
Fir	34.375	Crown glass	180.75
Tallow	59	Mason's work	205
Distilled water	62.5	Cast iron	450.45
Mahogany	66.4	Copper	486.75
Oak	73.15	Steel	489.8
Loose earth or sand	95	Pure silver	654.8
Common soil	124	Lead	709.5
Brick	125	Pure gold	1203.625
Strong soil	127	Platina	1218.75
Clay	135		

BULK OF A TON OF DIFFERENT SUBSTANCES.

Twenty-three cubic feet of sand, eighteen cubic feet of earth, or seventeen cubic feet of clay, make a ton. Eighteen cubic feet of gravel or earth before digging, make twenty-seven cubic feet when dug; or the bulk is increased as three to two.

STRENGTH OF ROPES.

	Breaking Weight.	Borne with Safety.
One-eighth inch diameter	78 lbs.	31 lbs.
One-fourth inch diameter	314 lbs.	125 lbs.
One-half inch diameter	1,250 lbs.	500 lbs.
One-inch diameter	5,000 lbs.	2,000 lbs.
One and a fourth inch diameter	7,500 lbs.	3,000 lbs.
One and a half inch diameter	12,500 lbs.	4,500 lbs.

HEATING POWER OF FUEL.

One cord of hickory wood and one ton of anthracite coal are equal in heating power. This table shows quantities required for a given amount of heat.

Hickory.....	4 cords.	Pitch pine.....	9½ cords.
White oak.....	4½ cords.	White pine.....	9½ cords.
Hard maple.....	6½ cords.	Anthracite coal.....	4 tons.
Soft maple.....	7½ cords.		

RIPENING OF PLANTS.

The more steady the heat the less the number of days between germination and ripening. Wheat, with a mean temperature of 59 degrees, requires 137 days to mature; with a temperature of 56 degrees, 160 days; with a temperature of 76 degrees, 92 days. In other words, the lower the mean temperature of the climate, the longer the crop must be in the ground before harvesting.

TEMPERATURE OF GERMINATION.

	Lowest Temperature.	Highest Temperature.	Temperature of Most Rapid Germination
Wheat	41 degrees Fahr.	104 degrees Fahr.	84 degrees Fahr.
Barley	41 degrees Fahr.	104 degrees Fahr.	84 degrees Fahr.
Pea.....	44.5 degrees Fahr.	102 degrees Fahr.	84 degrees Fahr.
Maize.....	48 degrees Fahr.	115 degrees Fahr.	93 degrees Fahr.
Scarletbean	49 degrees Fahr.	111 degrees Fahr.	79 degrees Fahr.
Squash....	54 degrees Fahr.	115 degrees Fahr.	93 degrees Fahr.

DIMENSIONS AND CONTENTS OF FIELDS, GRANARIES, CORN-CRIBS, ETC.

Farmers often wish to know the contents of a field or lot, crib, bin, cistern, etc. To find the number of acres in any square or rectangular field, multiply the length in rods and breadth in rods together and divide by 160; or, multiply the length in feet by breadth in feet and divide by 43,560, the number of square feet in an acre. Thus:

10 rods by 16 rods.....	make 1 acre.
8 rods by 20 rods.....	make 1 acre.
5 rods by 32 rods.....	make 1 acre.
4 rods by 40 rods.....	make 1 acre.
5 yards by 968 rods.....	make 1 acre.
10 yards by 484 yards.....	make 1 acre.
20 yards by 242 yards.....	make 1 acre.
40 yards by 121 yards.....	make 1 acre.
80 yards by 60½ yards.....	make 1 acre.
70 yards by 69½ yards.....	make 1 acre.
220 feet by 198 feet.....	make 1 acre.
440 feet by 99 feet.....	make 1 acre.
110 feet by 369 feet.....	make 1 acre.
60 feet by 726 feet.....	make 1 acre.
120 feet by 363 feet.....	make 1 acre.
240 feet by 181½ feet.....	make 1 acre.
200 feet by 108.9 feet.....	make ½ acre.
100 feet by 145.2 feet.....	make ½ acre.
100 feet by 108.9 feet.....	make ¼ acre.
25 feet by 100 feet.....	make .0574 acre.
25 feet by 110 feet.....	make .0631 acre.
25 feet by 120 feet.....	make .0688 acre.
25 feet by 125 feet.....	make .0717 acre.
25 feet by 150 feet.....	make .109 acre.
2178 square feet.....	make .05 acre.
4356 square feet.....	make .10 acre.
6534 square feet.....	make .15 acre.
8712 square feet.....	make .20 acre.
10890 square feet.....	make .25 acre.
13068 square feet.....	make .30 acre.
15246 square feet.....	make .35 acre.
17424 square feet.....	make .40 acre.
19603 square feet.....	make .45 acre.
21780 square feet.....	make .50 acre.
32670 square feet.....	make .75 acre.
31848 square feet.....	make .80 acre.
43560 square feet.....	make 1 acre.

CONTENTS OF GRANARIES.

To find the contents of granaries, multiply length, breadth and height together, to get the cubic feet. Divide this by 56, and multiply by 45, and the result will be struck measure.

CONTENTS OF CRIBS.

In the West, and wherever dent corn is raised, three heaping half-bushels are roughly estimated to make a bushel of shelled corn of fifty-six pounds. In reality sixty-eight pounds of ears of sound dent corn, well dried in the crib, will do so. Four heaping half-bushels of flint corn is roughly allowed for a bushel. One rule for finding the contents is to multiply the length, breadth and height together, in feet, to obtain the cubic feet; multiply this product by four, strike off the right-hand figure, and the result will be shelled bushels, nearly. This is on the basis of four half-bushels, per bushel, of shelled corn.

STANDARD BUSHEL.

A standard bushel is a measure 8 inches deep and $18\frac{1}{2}$ inches inside diameter. The heaped bushel requires 6 inches in the height of the cone above the top of the struck bushel.

CONTENTS OF CISTERNS.

Thirty-six inches of rain per year will yield seventy-two barrels of water for each ten feet square (100 square feet) of roof. Thus a 30x40 barn may supply two barrels per day throughout the year. Hence in dry countries—that is, countries where heavy rains are succeeded by long droughts—the cisterns must be larger than in those countries where rains are more constant, or in countries having an average fall of water. When the water is to be used daily a 30x40 barn should have a cistern ten feet in diameter and nine feet deep; this will hold 168 barrels. But, if to be drawn from only in time of drought, it should be three times this capacity.

CONTENTS OF A SQUARE CISTERN.

To find the contents of a square cistern, multiply the length by the breadth, and multiply the result by 1,728 and divide by 231. The result will be the number of gallons for each foot in depth. The following table shows the barrels for the sizes named for square cisterns:

5 feet by 5 feet	has capacity per foot in depth of.....	5.92 barrels.
6 feet by 6 feet	has capacity per foot in depth of.....	8.54 barrels.
7 feet by 7 feet	has capacity per foot in depth of.....	11.63 barrels.
8 feet by 8 feet	has capacity per foot in depth of.....	15.19 barrels.
9 feet by 9 feet	has capacity per foot in depth of.....	19.39 barrels.
10 feet by 10 feet	has capacity per foot in depth of....	23.74 barrels.

COMMERCIAL LAW CONTRACTS.

Any person of legal age may enter into a contract which is an agreement between persons to do a particular thing for a consideration. The following are considered incapable of making binding contracts—Minors—Insanity—Duress (forced to do it)—Drunkenness.

Every contract must contain the following—(a) parties must be competent—(b) consideration expressed or implied—(c) a certain act to be done or not done—(d) Mutual assent—(e) An agreed period must be specified.

Statute of Frauds requires all contracts to be in writing and signed—(1) For the sale of any interest in lands—(2) Leases of land for a year or more—(3) Contracts extending over a year—(4) If the consideration is marriage—(5) To answer for the debt, default or miscarriage of another—(6) For the sale of goods to the amount of \$50 unless part paid or part delivered.

DISTANCES APART FOR TREES, SHRUBS, ETC.

Forest trees should be 3x3 feet when first set out from the nursery, and ultimately thinned to forty-eight feet for the very largest, and so down to twenty-four feet for the smaller. Fruits may be set as in schedule:

	Feet.
Apples, standard.....	25 to 33
Apples, dwarf.....	5 to 8
Pears, standard.....	20
Pears, dwarf.....	8 to 10
Peaches, headed back.....	12
Cherries, standard.....	20
Cherries, dwarf.....	8 to 10
Plums, standard.....	15
Plums, dwarf.....	8 to 10
Quinces.....	6 to 8
Grapes.....	10 to 12
Gooseberries and currants.....	4
Raspberries.....	4
Blackberries.....	6 to 8

THE FOLLOWING TABLES SHOW THE AMOUNT OF PROXIMATE PRINCIPLES OF CORN AS COMPARED WITH THE OTHER CEREAL GRAINS:

100 Parts of	Starch.	Gluten and other Azo-tized Matter	Dextrine, etc. Glucose, etc.	Fatty Matters.	Cellulose.	Mineral Matter and Salts.
Wheat.....	58.12	22.75	9.50	2.61	4.00	3.02
Rye.....	65.65	13.50	12.00	2.15	4.10	2.60
Barley.....	65.43	13.96	10.00	2.76	4.75	3.10
Oats.....	60.54	14.38	9.25	5.50	7.06	3.25
Corn.....	67.55	12.50	4.00	8.80	5.90	1.25
Rice.....	89.15	7.05	1.00	.80	3.00	.90

COMPARATIVE VALUE OF FOODS BY ANALYSIS.

Good hay.....	100	Beans.....	29
Red clover hay (well cured)...	77	Peas.....	30
Rye straw.....	502	Indian Corn.....	70
Oat straw.....	364	Barley.....	65
Ruta-bagas.....	676	Rye.....	58
Field beets.....	391	Oats.....	60
Carrots.....	412	Buckwheat.....	74
Potatoes.....	324	Wheat.....	47
		Linseed oil-cake.....	22

GROWTH OF MONEY AT COMPOUND INTEREST.

One dollar, 100 years at 1 per cent.....	\$	23
One dollar, 100 years at 2 " ".....		74
One dollar, 100 years at 3 " ".....		194
One dollar, 100 years at 4 " ".....		504
One dollar, 100 years at 5 " ".....		1314
One dollar, 100 years at 6 " ".....		340
One dollar, 100 years at 7 " ".....		868
One dollar, 100 years at 8 " ".....		2,203
One dollar, 100 years at 9 " ".....		5,513
One dollar, 100 years at 10 " ".....		13,809
One dollar, 100 years at 12 " ".....		84,675
One dollar, 100 years at 15 " ".....		1,174,405
One dollar, 100 years at 18 " ".....		15,145,000
One dollar, 100 years at 24 " ".....		2,551,799,404

DAILY SAVINGS AT COMPOUND INTEREST.

Cents per Day.	Per Year.	Ten Years.	Fifty Years.
2 $\frac{3}{4}$	\$ 10.....	\$ 130.....	\$ 2,900
5 $\frac{1}{4}$	20.....	260.....	5,800
11.....	40.....	520.....	11,600
27 $\frac{1}{2}$	100.....	1,300.....	29,000
55.....	200.....	2,600.....	58,000
\$1. 10.....	400.....	5,200.....	116,000
1. 37.....	500.....	6,500.....	145,000

By the above table it appears that if a mechanic or clerk saves 2 $\frac{3}{4}$ cents per day from the time he is twenty-one until he is seventy, the total with interest will amount to \$2,900, and a daily saving of 27 $\frac{1}{2}$ cents reaches the important sum of \$29,000.

TABLE OF SEEDS AND PLANTS TO CROP AN ACRE.

Asparagus in 12-inch drills.....	16	quarts.
Asparagus plants at 4x1 $\frac{1}{2}$ feet.....	8000	
Barley.....	2 $\frac{1}{2}$	bushels.
Beans, Bush, in drills at 2 $\frac{1}{2}$ feet.....	1 $\frac{1}{2}$	bushels.
Beans, pole, Lima, at 4x4 feet.....	20	quarts.
Beans, Carolina, prolific, etc., at 4x3.....	10	quarts.
Beets and mangolds in drills at 2 $\frac{1}{2}$ feet.....	8	pounds.
Broom corn in drills.....	12	pounds.
Cabbage, sown in outdoor beds, for transplanting....	10	ounces.
Cabbage, sown in frames.....	4	ounces.
Carrot, in drills at 2 $\frac{1}{2}$ feet.....	3	pounds.
Celery Seed.....	8	ounces.
Celery, plants, at 4 $\frac{1}{2}$ feet.....	25000	
Clover, white Dutch.....	12	pounds.
Clover, Lucerne.....	10	pounds.
Clover, Alsike.....	12	pounds.
Clover, large red, with timothy.....	12	pounds.
Clover, large red, without timothy.....	16	pounds.
Corn, sugar.....	9	quarts.
Corn, field.....	7	quarts.
Corn, salad, in drills at 10 inches, large seed.....	25	pounds.
Cucumber, in hills.....	2	quarts.
Cucumber, in drills.....	3	quarts.
Egg-plants, plants 3x2 feet.....	4	ounces.
Endive, in drills at 2 $\frac{1}{2}$ feet.....	3	pounds.
Flax, broadcast.....	2	bushels.
Grass, timothy, with clover.....	6	quarts.
Grass, timothy, without clover.....	10	quarts.
Grass, orchard.....	25	pounds.
Grass, red top, or herds.....	20	pounds.
Grass, blue.....	28	pounds.
Grass, rye.....	20	pounds.
Grass, millet.....	32	quarts.
Hemp, broadcast.....	1 $\frac{1}{4}$	bushels.
Lettuce, in rows at 2 $\frac{1}{2}$ feet.....	3	pounds.
Lawn grass.....	35	pounds.
Melons, water, in hills 8x8 feet.....	3	pounds.
Melons, citron, in hills 4x4 feet.....	2	pounds.
Oats.....	2	bushels.
Okra, in drills 2 $\frac{1}{2}$ x $\frac{1}{4}$ feet.....	20	pounds.
Onion, in beds, for sets.....	35	pounds.
Onion, in rows, to make large bulbs.....	5	pounds.
Parsnip, in drills at 2 $\frac{1}{2}$ feet.....	5	pounds.
Pepper, plants, 2 $\frac{1}{4}$ x1 feet.....	17500	
Pumpkin, in hills 8x8 feet.....	2	quarts.
Parsley, in drills at 2 feet.....	4	pounds.
Peas, in drills, short varieties.....	2	bushels.
Peas, in drills, tall varieties.....	1 to 1 $\frac{1}{2}$	bushels.
Peas, broadcast.....	3	bushels.
Potatoes.....	8	bushels.
Radish, in drills 2 feet.....	8	pounds.
Rye, broadcast.....	2	bushels.
Rye, drilled.....	1 $\frac{1}{2}$	bushels.
Salsify, in drills at 2 $\frac{1}{2}$ feet.....	10	pounds.
Spinach, broadcast.....	30	pounds.

TABLE OF SEEDS AND PLANTS TO CROP AN ACRE—Continued

Squash, Bush, in hills 4x4 feet.	3	pounds.
Squash, running, in hills 8x8 feet.	2	pounds.
Sorghum.	4	quarts.
Turnips, in drills at 2 feet.	2	pounds.
Turnips, broadcast.	2½	pounds.
Tomatoes, in frame.	3	ounces.
Tomatoes, seed, in hills, 3x3 feet.	8	ounces.
Tomatoes, plants.	3800	
Wheat, in drills.	1½	bushels.
Wheat, broadcast.	2	bushels.

VEGETABLE SEEDS TO SOW 100 YARDS OF DRILL.

Asparagus.	8	ounces.
Beans, Bush.	3	quarts.
Beans, Lima.	3	pints.
Beans, pole.	1	pint.
Beet.	4	ounces.
Broccoli.	½	ounce.
Brussels sprouts.	½	ounce.
Cabbage.	1	ounce.
Carrot.	3	ounces.
Cauliflower.	½	ounce.
Celery.	3	ounces.
Collards.	½	ounce.
Corn.	1	pint.
Cress.	4	ounces.
Cucumber.	4	ounces.
Egg-plant.	½	ounce.
Endive.	2	ounces.
Leek.	2	ounces.
Lettuce.	2	ounces.
Melon, water.	2	ounces.
Melon, citron.	1	ounce.
Mustard.	4	ounces.
Okra.	12	ounces.
Onions, for large bulbs.	2	ounces.
Onions, for sets.	6	ounces.
Parsley.	2	ounces.
Peas.	3	quarts.
Pepper.	½	ounce.
Pumpkin.	2	ounces.
Radish.	6	ounces.
Rhubarb.	4	ounces.
Salsify.	4	ounces.
Spinach.	6	ounces.
Squash.	3	ounces.
Tomato.	1	ounce.
Turnips.	3	ounces.

These quotations are far too large to stand, but you must have more than enough in order to provide for contingencies.

ANTIDOTES FOR POISONS.

First.—Send for a Physician.

Second.—Induce vomiting, by tickling throat with feather or finger; drinking hot water or strong mustard and water. Swallow sweet oil or whites of eggs.

Acids are antidotes for Alkalies, and *vice versa*.

HELP IN CASE OF ACCIDENTS

Drowning.—1. Loosen clothing, if any. 2. Empty lungs of water by laying body on its stomach and lifting it by the middle so that the head hangs down. Jerk the body a few times. 3. Pull tongue forward, using handkerchief, or pin with string if necessary. 4. Imitate motion of respiration by alternately compressing and expanding the lower ribs about twenty times a minute. Alternately raising and lowering the arms from the sides up above the head will stimulate the action of the lungs. Let it be done gently but persistently. 5. Apply warmth and friction to extremities. 6. By holding tongue forward, closing the nostrils and pressing the "Adam's Apple" back (so as to close entrance to stomach), direct inflation can be tried.

FARMERS' TIME CALENDAR.

To find the number of days between any two dates of the year, consult this table. The numbers at the head of the columns represent the months—1 January, 2 February, etc. In leap years add another day after Feb. 28th.

1	2	3	4	5	6	7	8	9	10	11	12
1	32	60	91	121	152	182	213	244	274	305	335
2	33	61	92	122	153	183	214	245	275	306	336
3	34	62	93	123	154	184	215	246	276	307	337
4	35	63	94	124	155	185	216	247	277	308	338
5	36	64	95	125	156	186	217	248	278	309	339
6	37	65	96	126	157	187	218	249	279	310	340
7	38	66	97	127	158	188	219	250	280	311	341
8	39	67	98	128	159	189	220	251	281	312	342
9	40	68	99	129	160	190	221	252	282	313	343
10	41	69	100	130	161	191	222	253	283	314	344
11	42	70	101	131	162	192	223	254	284	315	345
12	43	71	102	132	163	193	224	255	285	316	346
13	44	72	103	133	164	194	225	256	286	317	347
14	45	73	104	134	165	195	226	257	287	318	348
15	46	74	105	135	166	196	227	258	288	319	349
16	47	75	106	136	167	197	228	259	289	320	350
17	48	76	107	137	168	198	229	260	290	321	351
18	49	77	108	138	169	199	230	261	291	322	352
19	50	78	109	139	170	200	231	262	292	323	353
20	51	79	110	140	171	201	232	263	293	324	354
21	52	80	111	141	172	202	233	264	294	325	355
22	53	81	112	142	173	203	234	265	295	326	356
23	54	82	113	143	174	204	235	266	296	327	357
24	55	83	114	144	175	205	236	267	297	328	358
25	56	84	115	145	176	206	237	268	298	329	359
26	57	85	116	146	177	207	238	269	299	330	360
27	58	86	117	147	178	208	239	270	300	331	361
28	59	87	118	148	179	209	240	271	301	332	362
29	...	88	119	149	180	210	241	272	302	333	363
30	...	89	120	150	181	211	242	273	303	334	364
31	...	90	...	151	...	212	243	...	304	...	365
1	366	397	425	456	486	517	547	578	609	639	670
2	367	398	426	457	487	518	548	579	610	640	671
3	368	399	427	458	488	519	549	580	611	641	672
4	369	400	428	459	489	520	550	581	612	642	673
5	370	401	429	460	490	521	551	582	613	643	674
6	371	402	430	461	491	522	552	583	614	644	675
7	372	403	431	462	492	523	553	584	615	645	676
8	373	404	432	463	493	524	554	585	616	646	677
9	374	405	433	464	494	525	555	586	617	647	678
10	375	406	434	465	495	526	556	587	618	648	679
11	376	407	435	466	496	527	557	588	619	649	680
12	377	408	436	467	497	528	558	589	620	650	681
13	378	409	437	468	498	529	559	590	621	651	682
14	379	410	438	469	499	530	560	591	622	652	683
15	380	411	439	470	500	531	561	592	623	653	684
16	381	412	440	471	501	532	562	593	624	654	685
17	382	413	441	472	502	533	563	594	625	655	686
18	383	414	442	473	503	534	564	595	626	656	687
19	384	415	443	474	504	535	565	596	627	657	688
20	385	416	444	475	505	536	566	597	628	658	689
21	386	417	445	476	506	537	567	598	629	659	690
22	387	418	446	477	507	538	568	599	630	660	691
23	388	419	447	478	508	539	569	600	631	661	692
24	389	420	448	479	509	540	570	601	632	662	693
25	390	421	449	480	510	541	571	602	633	663	694
26	391	422	450	481	511	542	572	603	634	664	695
27	392	423	451	482	512	543	573	604	635	665	696
28	393	424	452	483	513	544	574	605	636	666	697
29	394	...	453	484	514	545	575	606	637	667	698
30	395	...	554	485	515	546	576	607	638	668	699
31	396	...	445	...	516	...	577	608	...	699	...

BOARD AND PLANK MEASUREMENT AT SIGHT.

This table gives the square feet and inches in boards or planks from 3 to 25 inches wide, and 4 to 20 feet long. If a board be longer than 20 feet, or wider than 25 inches, unite two of the numbers.

LENGTH, -	WIDTH.																	
	4 ft.	5 ft.	6 ft.	7 ft.	8 ft.	9 ft.	10 ft.	11 ft.	12 ft.	13 ft.	14 ft.	15 ft.	16 ft.	17 ft.	18 ft.	19 ft.	20 ft.	
3 in.	1.00	1.03	1.06	1.09	2.00	2.03	2.06	2.09	3.00	3.03	3.06	3.09	4.00	4.03	4.06	4.09	5.00	
4 in.	1.04	1.08	2.00	2.04	2.08	3.00	3.04	3.08	4.00	4.04	4.08	5.00	5.04	5.07	6.00	6.04	6.08	
5 in.	1.08	2.01	2.06	2.11	3.04	3.09	4.02	4.07	5.00	5.05	5.10	6.03	6.08	7.01	7.03	7.11	8.04	
6 in.	2.00	2.06	3.00	3.06	4.00	4.06	5.00	5.06	6.00	6.06	7.00	7.06	8.00	8.06	9.00	9.06	10.00	
7 in.	2.04	2.11	3.06	4.01	4.05	5.03	5.10	6.05	7.00	7.07	8.02	8.09	9.04	9.11	10.06	11.01	11.08	
8 in.	2.08	3.04	4.06	4.08	5.04	6.00	6.08	7.04	8.00	8.08	9.04	10.00	10.08	11.04	12.00	12.08	13.04	
9 in.	3.00	3.09	4.00	5.03	6.00	6.09	7.06	8.03	9.00	9.09	10.06	11.03	12.00	12.09	13.06	14.03	15.00	
10 in.	3.04	4.02	5.06	5.10	6.08	7.06	8.04	9.02	10.00	10.10	11.12	12.09	13.06	14.02	15.00	16.00	17.00	
11 in.	3.08	4.07	5.00	6.05	7.04	8.03	9.02	10.01	11.00	11.11	12.10	13.09	14.08	15.07	16.06	17.05	18.04	
12 in.	4.00	5.00	6.00	7.00	8.00	9.00	10.00	11.00	12.00	13.00	14.00	15.00	16.00	17.00	18.00	19.00	20.00	
13 in.	4.04	5.05	6.00	7.07	8.08	9.09	10.10	11.11	12.13	13.00	14.01	15.02	16.03	17.04	18.05	19.06	20.07	
14 in.	4.08	5.10	7.00	8.02	9.04	10.06	11.08	12.10	13.15	14.00	15.02	16.04	17.06	18.08	19.10	20.12	21.03	
15 in.	5.00	6.03	7.00	8.09	10.00	11.03	12.03	13.09	15.00	16.03	17.06	18.09	20.00	21.03	22.06	23.09	25.00	
16 in.	5.04	6.06	8.00	9.04	10.08	12.00	13.04	14.08	16.00	17.04	18.08	20.00	21.04	22.08	24.00	25.04	26.08	
17 in.	5.08	7.01	8.06	9.11	10.04	12.00	13.05	14.02	15.07	16.00	17.04	18.05	19.10	21.03	22.04	23.06	24.08	
18 in.	6.00	7.06	9.00	10.06	12.00	13.06	15.00	16.06	18.00	19.06	21.00	22.06	24.00	25.06	27.00	28.06	30.00	
19 in.	6.04	7.11	9.06	10.11	12.08	13.15	15.08	16.15	18.00	19.06	21.00	22.06	24.00	25.06	27.00	28.06	30.00	
20 in.	6.08	8.04	10.00	11.08	13.04	15.00	16.06	18.04	20.00	21.06	23.04	25.00	26.06	28.00	30.06	31.31	33.04	
21 in.	7.00	8.09	10.06	11.06	13.04	15.09	16.15	18.04	20.01	21.08	23.04	25.00	26.06	28.00	30.06	31.31	33.04	
22 in.	7.04	9.02	11.00	12.10	14.08	16.06	18.04	20.02	22.00	23.00	25.08	27.06	29.04	31.02	33.00	34.10	36.05	
23 in.	7.08	9.07	11.06	13.05	14.17	16.15	18.04	21.01	23.00	24.11	26.03	28.00	30.08	32.07	34.06	36.05	38.04	
24 in.	8.00	10.00	12.00	14.00	16.00	18.00	20.00	22.00	24.00	26.00	28.00	30.00	32.00	34.00	36.00	38.00	40.00	
25 in.	8.04	10.05	12.06	14.07	16.08	18.09	20.10	22.11	25.00	27.01	29.02	31.03	33.04	35.03	37.06	39.07	41.00	

EXPLANATION.—To ascertain the number of feet, multiply the number of feet in length by the number of inches in width, and divide the product by 12; the result will be the number in feet and inches. Thus, multiply 9 inches wide by 26 feet long, and the result will be 234. Divide this by 12 and we have the product 19 feet and 6 inches.

Practical Tables for Rapid Calculators

TO ASCERTAIN THE WEIGHT OF CATTLE.—Measure the girth close behind the shoulder, and the length from the fore part of the shoulder-blade along the back to the bone at the tail, which is in a vertical line with the buttock, both in feet. Multiply the square of the girth, expressed in feet, by ten times the length, and divide the product by three; the quotient is the weight, nearly, of the fore quarters, in pounds avoirdupois. It is to be observed, however, that in very fat cattle the fore quarters will be about one-twentieth more, while in those in a very lean state they will be one-twentieth less than the weight obtained by the rule.

HOW TO MEASURE A TREE.—Very many persons, when looking for a stick of timber, are at a loss to estimate either the height of the tree or the length of timber it will cut. The following rule will enable anyone to approximate nearly to the length from the ground to any position desired on the tree: Take a stake, say six feet in length, and place it against the tree you wish to measure. Then step back some rods, twenty or more, if you can, from which to do the measuring. At this point a light pole and a measuring rule are required. The pole is raised between the eyes and the tree, and the rule is brought into position against the pole. Then by sighting and observing what length of the rule is required to cover the stake at the tree, and what the entire tree, dividing the latter length by the former and multiplying by the number of feet the stake is long, you reach the approximate height of the tree. For example, if the stake at the tree be six feet above ground and one inch on your rule corresponds exactly with this, and if then the entire height of the tree corresponds exactly with say nine inches on the rule, this would show the tree to possess a full height of fifty-four feet. In practice it will thus be found an easy matter to learn the approximate height of any tree, building, or other such object.

CISTERN MEASURE.—To find the capacity of a round cistern or tank, multiply the square of the average diameter by the depth, and take 3-16 of the product. For great accuracy, multiply by .1865. For square cisterns or tanks, multiply the cubic feet by .23%. The result is the contents in barrels.

LAND MEASURE.—To find the number of acres in a body of land, multiply the length by the width (in rods), and divide the product by 160. When the opposite sides are unequal, add them, and take half the sum for the mean length or width.

MEASURES OF CAPACITY.—The following table, showing contents of boxes, will be found convenient, taking inside dimensions:

24 in. x 24 in. x 14.7 will contain a barrel of 31½ gal-

15 in. x 14 in. x 11 in. will contain 10 gallons.

8¼ in. x 7 in. x 4 in. will contain a gallon.

4 in. x 4 in. x 3.6 in. will contain a quart.

24 in. x 28 in. x 16 in. will contain 5 bushels.

16 in. x 12 in. x 11.2 in. will contain a bushel.

12 in. x 11.2 in. x 8 in. will contain a half bushel.

7 in. x 6.4 in. x 12 in. will contain a peck.

8.4 in. x 8 in. x 4 in. will contain a half peck, or 4 dry quarts.

6 in. x 5 3-5 in., and 4 in. deep, will contain a half gallon.

4 in. x 4 in., and 2 1-10 in. deep, will contain a pint.

One hundred pounds of good hay for stock is equal to: Beets, white silesia, 669; turnips, 469; rye straw, 429; clover, red, green, 373; carrots, 371; mangolds, 368½; potatoes, kept in pit, 350; oat straw, 317; potatoes, 360; carrot leaves (tops), 135; hay, English, 100; Lucerne, 89; clover, red, dry, 88; buckwheat, 78½; corn, 62½; oats, 59; barley, 58; rye, 53½; wheat, 44½; oil-cake, linseed, 43; peas, dry, 37½; beans, 28.

One quart of wheat flour is one pound. One quart of corn meal weighs eighteen ounces. One quart of butter, soft, weighs fourteen to sixteen ounces. One quart of brown sugar weighs from a pound to a pound and a quarter, according to dampness. One quart of white sugar weighs two pounds. Ten medium sized eggs weigh one pound. A tablespoonful of salt is one ounce. Eight tablespoonfuls make a gill. Two gills, or sixteen tablespoonfuls, is half a pint. Sixty drops is one teaspoonful. Four tablespoonfuls is one wineglassful. Twelve tablespoonfuls is one teacupful. Sixteen tablespoonfuls, or half a pint, is one tumblerful.

THE MEANING OF MEASURES.—A square mile is equal to 640 acres. A square acre is 208.71 feet on one side. An acre is 43,560 square feet. A league, 3 miles. A span, 10⅞ inches. A hand, 4 inches. A palm, 3 inches. A great cubit, 11 inches. A fathom, 6 feet. A mile, 5,280 feet.

TO MEASURE CORN OR SIMILAR COMMODITY ON A FLOOR.—Pile up the commodity in the form of a heap. Then multiply the diameter in feet by itself, and then again by the height in feet, and divide the result by 4, and you have the approximate contents in bushels. Example: How many bushels in a heap of grain 6 feet in diameter and 3 feet high? Solution: 6 times 6 times 3, divided by 4, equals 27 bushels. Ans.

THE NUMBER OF CUBIC FEET IN A ROUND LOG OF UNIFORM DIAMETER.—Square the diameter, in inches, multiply by .7854, and multiply this product by the length in feet, divide by 144, and the quotient is the number of cubic feet.

HORSE-STALLS.—Width, 3 ft. 10 in. to 4 ft., or else 5 ft. or over in width—nine feet long. Width should never be between 4 and 5 ft., as in that case the horse is liable to cast himself.

NUMBER OF CUBIC FEET IN THE TRUNK OF A STANDING TREE.—Find the circumference in inches, divide by 3.1416, square the quotient, multiply by the length in feet, divide by 144, deduct about one-tenth for thickness of bark, and the result will be, approximately, the number of cubic feet.

NAILS REQUIRED FOR DIFFERENT KINDS OF WORK.

For 1,000 shingles, 3½ to 5 lbs. 4d nails, or 3 to 3½ lbs. 3d.

1,000 lath, about 7 lbs. 3d fine.

1,000 feet clapboards, about 18 lbs. 6d box.

1,000 feet covering boards, about 20 lbs. 8d common, or 25 lbs. 10d.

1,000 feet upper floors, square edged, about 38 lbs. 10d floor, or 41 lbs. 12d floor.

1,000 feet upper floors, matched and blind-nailed, 38 lbs. 10d, or 42 lbs. 12d common.

10 feet partitions, studs or studding, 1 lb. 10d common.

1,000 feet furring 1x3, about 45 lbs. 10d common.

1,000 feet furring 1x2, about 65 lbs. 10d common.

1,000 feet pine finish, about 30 lbs. 8d finish.

DIMENSIONS OF A BARREL.—Diameter of head, 17 in.; bung, 19 in.; length, 28 in.; volume, 7,680 cubic in.

TO FIND THE QUANTITY OF LUMBER IN A LOG.—Multiply the diameter in inches at the small end by one-half the number of inches, and this product by the length of the log in feet, which last product divide by 12. Example: How many feet of lumber can be made from a log 30 inches in diameter and 14 feet long? Thirty times 15 equals 450 times 14 equals 6,300 divided by 12 equals 525 feet. Ans.

TO TELL THE SOUNDNESS OF TIMBER.—Apply the ear to the middle of one of the ends, while another party strikes the other end. The blow will be clearly and distinctly heard, however long the beam may be, if the wood is sound and of good quality, but if decay has set in the sound will be muffled and indistinct. The toughest part of a tree will always be found on the side next the north.

BARBED WIRE REQUIRED FOR FENCES.—Estimated number of pounds of barbed wire required to fence space or distances mentioned with one, two or three lines of wire, based upon each pound of wire measuring one rod (16½ feet):

	1 line, pounds.	2 lines, pounds.	3 lines, pounds.
1 square acre	50 2-3	101 1-3	152
1 side of a square acre	12 2-3	25 1-3	38
1 square mile	1,280	2,560	3,840
1 side of a square mile	320	640	960
1 rod in length.....	1	2	3
100 rods in length.....	100	200	300
100 feet in length.....	6 1-16	12 1-8	18 3-16
1 square half-acre ...	36	72	108

CAPACITY OF CYLINDRICAL CISTERNS OR TANKS
For Each Foot of Depth (U. S. Gallons).

Diameter in feet	Gallons	Pounds	Diameter in feet.	Gallons.	Pounds.
2.0	23.5	196	9.0	475.9	3,968
2.5	36.7	306	9.5	530.2	4,421
3.0	52.9	441	10.0	587.5	4,899
3.5	72.0	600	11.0	710.9	5,928
4.0	94.0	784	12.0	846.0	7,054
4.5	119.0	992	13.0	992.9	8,280
5.0	146.9	1,225	14.0	1,151.5	9,602
5.5	177.7	1,482	15.0	1,321.9	11,023
6.0	211.5	1,764	20.0	2,350.1	19,596
6.5	248.2	2,070	25.0	3,672.0	30,620
7.0	287.9	2,401	30.0	5,287.7	44,093
7.5	330.5	2,756	35.0	7,197.1	60,016
8.0	376.0	3,135	40.0	9,400.3	78,388
8.5	424.5	3,540	....	.....	.....

TRADE DISCOUNTS.—Wholesale houses usually invoice their goods to retailers at "list" prices. List prices were once upon a time supposed to be retail prices, but of late a system of "long" list prices has come into vogue in many lines of trade—that is, the list price is made exorbitantly high, so that wholesalers can give enormous discounts. These discounts, whether large or small, are called trade discounts, and are usually deducted at a certain rate per cent from the face of invoice. The amount of discount generally depends upon size of bill or terms of settlement, or both. Sometimes two or more discounts are allowed. Thus 30% and 5% is expressed 30 and 5, meaning first a discount of 30% and then 5% from the remainder. Thirty and 5 is not 35% but 33½%. Ten, 5 and 3 off means three successive discounts. A wholesale house allowing 10, 5 and 3 off gets more for its goods than it would at 18 off.

BRICK REQUIRED TO CONSTRUCT A BUILDING.

(Reckoning 7 brick to each superficial foot.)

Superficial feet of wall.	Number of Bricks to Thickness of					
	4 in.	8 in.	12 in.	16 in.	20 in.	24 in.
1.....	7	15	23	30	38	45
2.....	15	30	45	60	75	90
3.....	23	45	68	90	113	135
4.....	30	60	90	120	150	180
5.....	38	75	113	150	188	225
6.....	45	90	135	180	225	270
7.....	53	105	158	210	263	315
8.....	60	120	180	240	300	360
9.....	68	135	203	270	338	405
10.....	75	150	225	300	375	450
20.....	150	300	450	600	750	900
30.....	225	450	675	900	1125	1350
40.....	300	600	900	1200	1500	1800
50.....	375	750	1125	1500	1875	2250
60.....	450	900	1350	1800	2250	2700
70.....	525	1050	1575	2100	2625	3150
80.....	600	1200	1800	2400	3000	3600
90.....	675	1350	2025	2700	3375	4050
100.....	750	1500	2250	3000	3750	4500
200.....	1500	3000	4500	6000	7500	9000
300.....	2250	4500	6750	9000	11250	13500
400.....	3000	6000	9000	12000	15000	18000
500.....	3750	7500	11250	15000	18750	22500
600.....	4500	9000	13500	18000	22500	27000
700.....	5250	10500	15750	21000	26250	31500
800.....	6000	12000	18000	24000	30000	36000
900.....	6750	13500	20250	27000	33750	40500
1000.....	7570	15000	22500	30000	37500	45000

FACTS FOR BUILDING.

BRICK CHIMNEYS.—Thickness of brick-work, one brick from top to twenty-five feet from top; a brick and a half from 25 to 50 ft. from top, increasing by half a brick for each additional 25 feet to bottom. The diameter at base should be not less than one-tenth the height. If the inside diameter at top exceeds $4\frac{1}{2}$ feet, the top length should be a brick and a half thick.

1,000 shingles, laid 4 inches to the weather, will cover 100 sq. ft. of surface, and 5 lbs. of shingle nails will fasten them on.

One-fifth more siding and flooring is needed than the number of square feet of surface to be covered, because of the lap in the siding and matching.

1,000 lath will cover 70 yards of surface, and 7 lbs. of lath nails will nail them on. Eight bushels of good lime, 16 bushels of sand and 1 bushel of hair will make enough good mortar to plaster 100 square yards.

A cord of stone, 3 bushels of lime and a cubic yard of sand will lay 100 cubic feet of wall.

Cement, 1 bushel, and sand, 2 bushels, will cover $3\frac{1}{2}$ square yards 1 inch thick, $4\frac{1}{2}$ square yards $\frac{3}{4}$ inch thick, $6\frac{3}{4}$ square yards $\frac{1}{2}$ inch thick. One bushel cement and one of sand will cover $2\frac{1}{4}$ square yards 1 inch thick, 3 square yards $\frac{3}{4}$ inch thick, and $4\frac{1}{2}$ square yards $\frac{1}{2}$ inch thick.

Pitch of tin, copper or tar-and-gravel roofs five-eighths of an inch to the foot and upwards.

Smallest convenient size of slab for a 14-in. washbowl 21 by 24 in. Height of slab from floor, 2 ft. 6 in.

Urinals should be 2 ft. 2 in. between partitions; partitions, 6 ft. high.

Space occupied by water-closets, 2 ft. 6 in. wide; 2 ft. deep.

CARPENTERING.—Naked flooring in carpentry is the joists which support the flooring boards and ceiling of a room. There are three different kinds, viz.: single joisted floors, double floors, and framed floors.

A single joisted floor consists of only one series of joists; sometimes every third or fourth joist is made deeper, with ceiling joists nailed across at right angles. This is a good method, as ceiling stands better than when the lath are nailed to the joists alone.

A double floor consists of binding, bridging and ceiling joists; the binding joists are the chief support of the floor, and the bridging joists are nailed upon the upper side of them; the ceiling joists are either notched to the under side or framed between with chased mortises. The best method is to notch them.

Framed floors differ from double floors only in having the binding joists framed into large pieces of timber called girders.

Single joisted floors, when the bearing exceeds ten feet, should be cross-bridged between the joists to prevent them from turning or twisting sideways, and also to stiffen the floor; when the bearing exceeds fifteen feet two rows will be necessary, and so on, adding another row for each five feet bearing.

Single joisting may be used to any extent for which timber can be got deep enough; but where it is desirable to have a perfect ceiling the bearing should not exceed 18 feet, nor the distance from center to center be more than 16 inches; otherwise the bearing for the laths becomes too long to produce good work.

To find the depth of a joist, the length of bearing and the thickness being given—

Rule.—Divide the square of the length in feet by the thickness in inches, and the cube root of the quotient, multiplied by 2.2 for pine, or 2.3 for oak, will be the depth in inches.

Example.—Suppose a joist whose bearing is 10 feet, and the thickness 2 inches, what will be the depth?

Here $10 \times 10 = 100$, divided by 2, the thickness = 50, the cube root of which is $3,684 \times 2.2 = 8.1048$, equals 8 inches, the depth.

Girders are the chief support of a framed floor, and their depth is often limited by the size of the timber; therefore the method of finding the scantling may be divided in two cases—

Case 1.—To find the depth of a girder when the length of bearing and thickness of girder are given.

Rule.—Divide the square of the length in feet by the thickness in inches, and the cube root of the quotient, multiplied by 4.2 for pine, or 4.34 for oak, will give the depth required in inches.

Case 2.—To find the thickness when the length of bearing and depth are given.

Rule.—Divide the square of the length in feet by the cube or the depth in inches, and the quotient multiplied by 74 for pine, or by 82 for oak, will give the thickness in inches.

In these rules the girders are supposed to be 10 feet apart, and this distance should never be exceeded, but should the distance apart be more or less than 10 feet the thickness should be made proportionate thereto.

Partitions unsupported from underneath the floors should be supported from the walls by means of a simple truss. This can be made by setting two pieces of scantling into the walls on either side at the floor to abut against each other at the ceiling or against a collar-beam over the doors. This plan will obviate the sinking of floors so often seen under partitions.

WEIGHT OF DRY LUMBER.

	Pounds.
Flooring—Dressed and matched, per 1,000 ft.....	1,800
Siding—Dressed, per 1,000 ft.....	800
Ceiling— $\frac{3}{8}$ inch thick, per 1,000 ft.....	800
Ceiling, $\frac{1}{2}$ inch thick, per 1,000 ft.....	900
Boards—Dressed one side, per 1,000 ft.....	2,100
Boards—And dimensions, rough, per 1,000 ft.....	2,500
Shingles—Per 1,000	250
Lath—Per 1,000 pieces.....	500
Pickets—Dressed, per 1,000 pieces.....	1,800
Pickets—Rough, per 1,000 pieces.....	2,500

The maximum rainfall is about one inch per hour (except during very heavy storms)—equal to 22,633 gallons an hour for each acre, or 377 gallons a minute per acre.

ROOFING.—The average width of a shingle is 4 inches. Hence, when shingles are laid 4 in. to the weather each shingle averages 16 sq. in., and 900 are required for a square of roofing (100 sq. ft.). If $4\frac{1}{2}$ in. to the weather, 800; 5 in., 720; $5\frac{1}{2}$ in., 655; 6 in., 600. In hip-roofs, where the shingles are cut more or less to fit the room, 5% should be added to these figures.

One thousand shingles laid 4 inches to the weather will require 5 pounds of shingle nails. Six pounds of 4d nails will lay 1,000 split pine shingles.

A carpenter will carry up and lay on the roof from 1,500 to 2,000 shingles per day, or two squares to two squares and a half of plain gable-roofing.

The pitch of a slated roof should be about one in height to four in length. The usual lap is about 3 in., sometimes 4 in. Each slate should be fastened by two 3d slate nails, either of galvanized iron, copper or zinc. On roofs of gas-houses the nails should be of copper or yellow metal.

The sides and bottom edges of roof slates should be trimmed, and the nail-holes punched as near the head as possible. When slates are not of uniform size they should be sorted, and the smallest placed near the bridge.

In a first-class roof the top course on ridge, and the slate from 2 to 4 feet from gutters, and 1 foot each way from valleys and hips, should be bedded in elastic cement.

Roof-boards for slate roofs should be covered with one or two thicknesses of tarred felt roofing paper before slates are laid. Dry or rosin-sized felt should not be used on roofs.

NUMBER OF SHINGLES REQUIRED IN A ROOF.—To the square foot it takes 9 if exposed 4 inches; 8 if exposed $4\frac{1}{2}$ inches, and 71-5 if exposed 5 inches to the weather.

Find the number of shingles required to cover a roof 38 ft. long and the rafters on each side 14 ft. Shingles exposed $4\frac{1}{2}$ in.

$$28 \times 38 = 1,064 \text{ (sq. ft.)} \times 8 = 8,512 \text{ shingles. Ans.}$$

To find the length of rafters, giving the roof one-third pitch, take three-fifths of the width of the building. If the building is 30 ft. wide they must be 18 ft. long, exclusive of projection.

A tin roof, properly put on and kept painted, will last thirty years. It ought not to be painted for the first time until it has been on about thirty days, so as to get the grease off the tin, and all the rosin should be carefully scraped off.

It is sometimes necessary on buildings where there is much dampness or steam, as stables, blacksmith shops, round-houses, etc., to paint the roof tin one coat on the under side before laying.

Tin roofs should be laid with cleats, and not by driving the nails through the tin itself.

There are two kinds of tin—"bright tin," the coating of which is all tin—that is, the tin proper; and "tern," "leaded," or "roofing" tin, the coating of which is a composition, part tin and part lead. This last is a little cheaper and will not rust any quicker, but the sulphur in soft coal smoke eats through the "leaded" coating sooner than through the "tinned."

There are two sizes of tin, 10x14 and 14x20, and two grades of thickness IC light and IX heavy. For a steep roof (one-sixth pitch or over) the IC 14x20 tin ("leaded" if high up where little smoke will get to it; "bright" if low down), put on with a standing groove, and with the cross-beams put together with a double lock, makes as good a roof as can be made. For flat roofs IX 10x14 "light" is best, laid with cleats, but the others make good roofs, and any of them will last 25 years at least.

Number of Square Feet a Box of Roofing-Tin Will Cover.—For flat seam roofing, using $\frac{1}{2}$ -inch locks, a box of "14x20" size will cover about 192 square feet, and for standing seam, using $\frac{3}{8}$ -inch locks and turning $1\frac{1}{4}$ and $1\frac{1}{2}$ -inch edges, making 1-inch standing seams, it will lay about 168 square feet.

For flat seam roofing, using $\frac{1}{2}$ -inch locks, a box of "28x20" size will cover about 399 square feet, and for standing seam, using $\frac{3}{8}$ -inch locks and turning $1\frac{1}{4}$ and $1\frac{1}{2}$ -inch edges, making 1-inch standing seams, it will lay about 365 square feet.

Every box of roofing plates (IC or IX "14x20" or "28x20" sizes) contains 112 sheets.

PAINTING AND GLAZING.—One coat, or priming, will take, per 100 yards of painting, 20 pounds of lead and 4 gallons of oil. Two-coat work, 40 pounds of lead and 4 gallons of oil. Three-coat, the same quantity as two-coat. So that a fair estimate for 100 yards of three-coat work would be 100 pounds of lead and 16 gallons of oil.

One gallon priming color will cover 50 superficial yards; white zinc, 50 yds.; white paint, 44 yds.; lead color, 50 yds.; black paint, 50 yds.; stone color, 44 yds.; yellow paint, 44 yds.; blue color, 45 yds.; green paint, 45 yds.; bright emerald green, 25 yds.; bronze green, 75 yds.

One pound of paint will cover about 4 superficial yards the first coat and about 6 each additional coat. One pound of putty, for stopping, every 20 yards. One gallon of tar and 1 lb. of pitch will cover 12 yards superficial the first coat and 17 yards each additional coat. A square yard of new brick wall requires, for the first coat of paint in oil, $\frac{3}{4}$ lb.; for the second, 3 lbs.; for the third, 4 lbs.

A day's work on the outside of a building is 100 yards of first coat and 80 yards of either second or third coat. An ordinary door, including casings, will, on both sides, make 8 to 10 yards of painting, or about 5 yards to a door without the casings. An ordinary window makes about $2\frac{1}{2}$ or 3 yards.

Window glass is sold by the box, which contains, as nearly as possible, 50 sq. ft., whatever the size of the panes. The thickness of ordinary or "single thick" window glass is about one-sixteenth of an inch, and of "double thick" nearly $\frac{1}{8}$ in. The tensile strength of common glass varies from 2,000 to 3,000 lbs. per sq. in., and its crushing strength from 6,000 to 10,000 lbs.

BUILDERS' ESTIMATING TABLE.

Quantity of material in every four lineal feet of exterior wall in a frame building—height of wall being given,

Length of Studs.	Size of Sills.	Size of Studs, Braces, etc.	Quantity of Rough Lumber.	Quantity of Inch Boarding.	Siding in sup. feet.	Tar Paper in sup. feet.
8	6x 6	2x4 Studs	42'	36	40	74
10	6x 8	4x4 Braces	52	44	50	80
12	6x10	4x4 Plates	62	53	60	96
14	6x10	1x6 Ribbons	69	62	70	112
16	8x10		82	71	80	128
18	8x10	Studs	87	80	90	144
20	8x12	16 inches from centers	98	88	100	160
22	9x12		109	97	110	176
24	10x12		119	106	120	192
18	10x10	2x6 Studs	122	80	90	144
20	10x12	6x6 Braces	137	88	100	160
22	10x12	4x6 Plates	145	97	110	176
24	12x12	1x6 Ribbons	162	106	120	192
26	10x14		169	114	130	208
28	10x14	Studs 16 inch centers	176	123	140	224
30	12x14		198	132	150	240

Amount of lumber in rafters, collar-piece and boarding, and number of shingles to four lineal feet of roof, measured from eave to eave over ridge.
Rafters 16-inch centers:

Width of House, Feet.	Size of Rafters.	Size of Collar-piece.	Quantity of Lumber in Rafter and Collar-piece.	Quantity of Boarding, Feet.	No. of Shingles.
14	2x4	2x4	39	91	560
16	2x4	2x4	45	70	640
18	2x4	2x4	50	79	720
20	2x4	2x4	56	88	800
22	2x4	2x4	62	97	880
24	2x4	2x4	67	106	960
20	2x6	2x6	84	88	800
22	2x6	2x6	92	97	880
24	2x6	2x6	101	106	960
26	2x6	2x6	109	115	1040
28	2x6	2x6	117	124	1120
30	2x6	2x6	126	133	1200

WEIGHT OF FLOORS, AND THE LOAD UPON SAME.—The dead weight of a fire-proof floor will average for the arches, concrete, plastering and flooring, 70 lbs. per sq. foot. The live weight, equal to a dense crowd of people, 80 lbs. per sq. foot, or a total for an office building of 150 lbs. per sq. foot.

The following loads are exclusive of weight of arches and beams:

Dense crowd of people.....	80 lbs. per sq. foot
For floors of houses.....	50 lbs. per sq. foot
Theaters and churches.....	80 lbs. per sq. foot
Ball rooms	90 lbs. per sq. foot
Ware houses	250 lbs. per sq. foot
Factories	200 to 450 lbs. per sq. foot
Snow 30 inches deep.....	15 lbs. per sq. foot
Brick walls	112 lbs. per cubic foot
Stone (dressed)	160 lbs. per cubic foot

The dead weight of a wooden floor, including wood joists:

Double flooring and plastering will
average25 lbs. per sq. foot

If deafened35 lbs. per sq. foot
 Stud partition of wood plastered each
 side20 lbs. per sq. foot
 In estimating the weight of a flat ceiling and roof it
 will be safe to assume the following:
 Ceiling of wooden construction.....15 lbs. per sq. foot
 Ceiling of iron construction.....25 to 65 lbs. per sq. foot
 Roof of wooden construction.....45 lbs. per sq. foot
 Roof of iron construction.....65 to 100 lbs. per sq. foot
 The weight of roof includes the wind pressure and
 snow.

WEIGHT OF VARIOUS MATERIALS.—Weight of
 Stones.—Granite, (averages) per cubic foot, 170 lbs.; lime-
 stone (magnesium), 144 lbs.; Berea (sand stone), 140 lbs.;
 free stone, 140 lbs.; gypsum, natural state, 140 lbs.

One ton of vein marble is 13 cubic feet; of statuary
 marble, 13½ feet; granite, 13½ feet; of Berea stone, 14½;
 of limestone, magnesium, 13¾.

Weight of Masonry.—Granite, per cubic foot, 160 lbs.;
 of Berea stone range, 140; of limestone rubble, 140; of
 brick, dry, 115; of brick, dry (press), 130; of brick, dry
 (fire), 150; of brick masonry in mortar, 110; of brick
 masonry cement, 112.

Weight of Marble Slabs.—One-half inch thick, per sq.
 foot, 7.17 lbs; ¾ inch thick, 10.75; 1 inch thick, 14.32;
 1¼ inch thick, 17.92; 1½ inch thick, 21.05; 1¾ inch thick,
 25.08; 2 inch thick, 28.67; 2½ inch thick, 35.83.

Cement and Lime.—One bushel of Portland cement
 weighs 96 lbs.; of Rosendale, 70; of Louisville, 62; of
 quick lime well shaken, 80; of quick lime, loose, 70.

Iron and Wood.—One cubic foot of wrought iron weighs
 480 lbs.; of cast iron, 450; of oak (seasoned), 48; of pine
 (seasoned), 36.

Coal.—One bushel of Anthracite weighs 86 lbs.; of Bitu-
 minous, 80; of coke (Connellsville), 40; of charcoal (hard-
 wood), 30.

Miscellaneous Weights.—Per cubic foot: Ordinary quick
 lime, 53 lbs.; old mortar, 90; new mortar, well tempered,
 115; new mortar, 110; river sand (average), 107; river
 sand (screened), 95; clay with gravel, 130; earth—vege-
 table, 90; earth—loamy, 100; earth—semi fluid, 110.

FACTS FOR BUILDING

Five courses of brick will lay 1 foot in height on a chim-
 ney, 8 bricks in a course will make a flue 4 ins. wide and
 12 ins. long, and 16 bricks in a course will make a flue 8
 ins. wide and 16 ins. long.

Twenty-two cubic feet of stone, when built into the wall,
 is 1 perch.

Three pecks of lime and four bushels of sand are re-
 quired to each perch of wall.

There are 20 common bricks to a cubic foot when laid;
 and 15 common bricks to a foot of 8-inch wall when laid.

Fifty feet of boards will build one rod of fence five
 boards high, first board being 20 inches wide, second 8
 inches, third 7 inches, fourth 6 inches, fifth 5 inches.

USEFUL FACTS ABOUT BRICKLAYING AND PLASTERING

The average weight of smaller-sized bricks is about 4
 lbs.; of the larger about 6 lbs.

Dry bricks will absorb about one-fifteenth of their weight
 in water.

A load of mortar measures a cubic yard, or 27 cubic ft.;
 requires a cubic yard of sand and 9 bus. of lime and will
 fill 30 hods.

A bricklayer's hod 1 ft. 3 in. by 9 in. by 9 in. equals
 1,296 cubic in. in capacity, and contains 20 bricks.

A single load of sand and other materials equals a cubic
 yard, or 27 cubic ft.; a double load twice that quantity.

One thousand bricks, closely stacked, occupy about 56 cubic ft. One thousand old bricks, cleaned and loosely stacked, occupy about 72 cubic feet.

One superficial foot of gauged arches requires ten bricks.

One superficial foot of facings requires seven bricks.

One yard of paving requires 36 stock bricks laid flat, or 52 on edge, and 36 paving bricks laid flat, or 82 on edge.

The bricks of different makers vary in dimensions, and those of the same maker vary also, owing to varying degrees of heat in burning. The calculations given above are therefore approximate.

One hundred yards of plastering will require 1,400 laths, $4\frac{1}{2}$ bus. lime, four-fifths of a load of sand, 9 lbs. hair, and 9 lbs. nails, for two-coat work.

Three men and one helper will put on 450 yards, in a day's work, of two-coat work, and will put on a hard finish for 300 yards.

A bushel of hair weighs, when dry, about 15 lbs.

PUTTY, FOR PLASTERING, is a very fine cement made of lime only. It is thus prepared: Dissolve in a small quantity of water, as two or three gallons, an equal quantity of fresh lime, constantly stirring it with a stick until the lime be entirely slacked, and the whole becomes of a suitable consistency, so that when the stick is taken out of it, it will but just drop therefrom; this, being sifted or run through a hair sieve, to take out the gross parts of the lime, is fit for use. Putty differs from fine stuff in the manner of preparing it, and its being used without hair.

FARM LAW.

If your farm is described as beginning at a certain stake and thence to a certain tree, or stone, etc., until all the boundary is given, the deed includes all the land inside those boundaries. If these lines say 100 feet to a stone, and it should be only 90 feet, you only get 90 feet, and if it said to contain 100 acres and by actual measurement it only contains 90 acres, you only get 90 acres, and have no redress unless you bought it at so much per acre. In that case you could recover the price of the missing acres.

If a farmer hire help without any special bargain he is entitled to the current wages. If the bargain is for more than a year, or to begin at a future day so that it will be over a year, if the laborer is under 21, the contract must be in writing and be signed.

Fences are not put up for keeping other people's cattle off your land so much as they are for keeping your own cattle from going on others' land. That is why you are liable if your cattle stray off and damage another's place. And he is liable to you in the same way.

Half of the roadway in front of your place is yours and no man has any right to dump stuff on it, feed his cattle, or use it; at the same time you must not make it impassable yourself.

If you have vicious animals on your place you should post up a notice, Beware of the Bull, etc., otherwise you are liable to damages if a stranger gets hurt.

A tree standing on your land, though part of its roots are on another's, and the limbs overhang his property, he has no right to the fruit, and can not prevent your going on his land to pick same. If it should fall you may enter and pick it up. If the tree is directly on the line between the two properties both parties own it, and each are entitled to one-half of the fruit. Neither may cut it down without the consent of the other.

Denatured Alcohol. Act of 1907.

The regulations and instructions concerning denatured alcohol were issued by the government in July, 1907, and can be had by addressing the commissioner of internal revenue, Washington, D. C.

Under this new law as amended farmers may manufacture their own alcohol for fuel and other purposes, and if any farmer wishes to do so, the editor would suggest that he get the book of rules, which will be sent on application to the above. There are many forms to be filled out and a few questions to be answered to get the permit to manufacture, and as this is under a close inspection it is well to know all the rules before engaging in the business.

One of the most important features of the new regulations is that farmers may produce alcohol from anything that contains fermentable matter.

Here are some of the more important matters connected with starting a distillery: The farmers' manufactory comes under the heading of "Industrial Distilleries" and shall be one of two classes, viz.: That of a daily spirit producing capacity of 50 proof gallons or less, called the first class, and that of a daily spirit producing capacity of more than 50 and not more than 100 gallons shall constitute the second class. To the first class storekeeper gaugers will not be appointed, unless the collector deems it necessary. The collector will, however, appoint a gauger for the second class.

What You Must Do to Get a Permit.

Your factory must be registered. The distillery must be on land owned or controlled by yourself. If a mortgage or other lien the consent of the mortgagor or lienor must be had. Apply to the collector of inland revenue for your district for a permit. If for a firm or company all names must be given and their residence. Give also the size of distillery, kind of stills, cubic contents of each, mode of boiling whether by furnace or steam heat. The number of tubs of each kind and what they are to be used for, the quantity of proof gallons of proof spirits it is estimated can be produced in twenty-four hours from each variety and condition of materials it is proposed to use. Give an accurate description of the building and remember your distillery must not be within 600 feet in a direct line of any vinegar factory employing vaporizing process or premises authorized for rectifying or refining distilled spirits. The proof of alcohol manufactured for denaturation must not be less than 150 degrees.

The following are the factors in determining the capacity of a distillery: The number of stills, the gross gallons capacity of each, the net capacity of each after deducting the boiling space, the number of boilings that can be made in twenty-four hours, the percentage of the whole boiling space necessary to be allowed for doubling, and the kind and condition of material it is proposed to use. All doors, windows, and cocks controlling steam pipes for heating and running the alcohol must be so made that they can be locked.

Each tank or tub must be numbered serially. All raw material shall be placed in a room or building, to be called the "material room." An "alcohol room" shall be provided in each distillery in which shall be erected cisterns sufficient to store the full capacity of the distillery for one month. (That is provided no gauger is on the premises.) The regulations regarding mixing, transportation, selling, etc., are very definite and can be seen from a perusal of the book above mentioned. A monthly report must be made of the operations of the distillery.

The above gives a general outline of the regulations, but if any farmer thinks seriously of engaging in this business his best course is to write the department above mentioned.

THE HANDY VETERINARY DOCTOR

THE HORSE AND ITS DISEASES.

PULSE in a healthy horse beats from 36 to 40 times a minute. A horse breathes on an average 10 times a minute.

TEMPERATURE.—Normal, 98 degrees. When it is 102 or over the horse has fever and should be attended to. If a horse refuses food it is generally a sign of sickness.

BLOODY URINE.—**TREATMENT:** Give plenty of linseed tea to drink. Keep him quiet.

BOTS.—**SYMPTOMS:** Occasional nipping of his sides, red pimples on the inner surface of upper lip which may be seen by turning up lip. **TREATMENT:** Two quarts new milk, 1 quart molasses, mix and give all, 15 minutes afterwards give 2 quarts warm sage tea, 30 minutes after the tea give 3 pints of Currier's oil.

COLDS.—**SYMPTOMS:** Watery eyes. Membranes of nose and eyes become red. **TREATMENT:** Place in comfortable stall with good ventilation. Blanket warmly and apply 10 to 20 drops of aconite in some water to the tongue. **FEED:** Warm bran mash with a little boiled oats.

COLIC.—**SYMPTOMS:** The attack is very sudden and without fever. Animal becomes restless, uneasy, paws and cringes and is in great distress, strikes belly with hind foot, perspiration breaks out all over him, gets down and rolls on back. **TREATMENT:** Give 1 to 3 tablespoonfuls of the following (according to the severity of the case; this remedy is one of the best pain-killers and should be kept on hand all the time): Spirits of turpentine, 1 oz.; sassafras bark powdered, 1 oz.; cayenne, 1 oz.; powdered gum guaiac, 1 oz.; gum myrrh, 1 oz.; gum camphor, 1 oz.; oil origanum, $\frac{1}{4}$ oz.; oil hemlock, $\frac{1}{2}$ oz.; pulv. opium, $\frac{1}{2}$ oz.; strongest alcohol, 2 qts. Mix well together and shake the bottle often for 10 days, strain through flannel, give in one pint of milk.

COUGH.—**TREATMENT:** Balsam of fir, 2 oz.; alcohol, $\frac{1}{2}$ pint. Mix well and add all the tar it will dissolve; shake well; two teaspoonfuls three times daily.

CUTS AND WOUNDS.—**TREATMENT:** Clip the hair from the edge of the wound and clean it by sponging with warm water and a few drops of carbolic acid. Dry with clean cloth and cover wound completely with quinine. Apply this every six hours. Also good for collar and shoulder galls.

DIURESIS.—**SYMPTOMS:** Intense thirst, pulse irregular, loses condition quickly, coat becomes rough, passes large quantities of clear urine. **TREATMENT:** Two drams of iodine once or twice daily.

EPIZOOTIC.—**SYMPTOMS:** Light hacking cough, general dullness, shivering, cold legs and watery discharge from nostrils. Membrane becomes pale at first, but changes to bright red. Discharge becomes greenish yellow in color. **TREATMENT:** Blanket warmly and apply following to throat: Turpentine, $1\frac{1}{2}$ oz.; liquor ammonia fotr., 1 oz.; linseed oil, $1\frac{1}{2}$ oz. Mix together.

EYE AND ITS INJURIES.—**TREATMENT:** Examine the eyes closely and remove any foreign matter. Keep the horse in a darkened stall. If inflamed bathe with cold water and a sponge, after this apply the following three or four times a day: One scruple saltpeter, 1 scruple white vitriol, 8 oz. pure soft water.

FOUNDER OR LAMINITES.—Indicated by inflammation where the hoof is attached to the foot. He throws

his weight on his hind legs to relieve the pressure on his forefeet. **TREATMENT:** Remove the shoes, and let his forefeet stand in tub of hot water for two hours, cover him with blankets and give 1 pint linseed oil, 1 oz. oil sassafras, 2 oz. saltpeter, 30 drops aconite. Put on dry blankets in six hours.

GLANDERS AND FARCEY.—SYMPTOMS: Lining of nostrils become purple in color, thin odorless discharge at first becoming sticky, yellowish colored; ulcers also appear. Hard glandular enlargement below the jaw, appetite fails, varicose veins appear, legs swell in day time and go down at night. **TREATMENT:** Remove from contact with other animals at once, call a veterinary surgeon; take no chances. If it has this disease it should be destroyed.



Grease—Bad Case

GREASE.—TREATMENT: Give laxative and feed on bran, carrots, etc., to produce a quiet, cool condition. Cleanliness is most essential in the cure of this disease. Wash the heels every day in warm water, using castile soap. If a bad case, cut off the hair and apply linseed poultices; wash off the poultice carefully every morning and apply following: One and one-half drams chloride of zinc, 8 oz. glycerine, 10 oz. water; mix carefully. Divide the following into 12 powders and give one in the feed every night until they are gone: One oz. bicarbonate of soda, 1 dram arsenic, $\frac{1}{2}$ oz. iodide of iron, 2 oz. fenugreek, 2 oz. ginger, 1 oz. elecampane; mix thoroughly.

HEAVES OR BROKEN WIND.—SYMPTOMS: Increased action of the flanks, short cough. **TREATMENT:** One oz. indigo, 2 oz. Spanish brown, 2 oz. elecampane, 2 oz. nitrate potash, 1 oz. tartar emetic, $\frac{1}{2}$ oz. black antimony. Grind and pass through fine sieve; add 3 oz. licrice. Give one teaspoonful twice a day for three days, then once a day for three days, then twice a week till cured.

INFLAMMATION OF THE LUNGS.—SYMPTOMS: Shivering and coldness, cold ears and legs, membranes of nose and eyes red, heavy, rapid breathing and fever. Pulse, 60 to 80 per minute. **TREATMENT:** Blanket warmly, put in comfortable stall, where there will be pure air. Give the following: Tinct. of aconite, 10 drops; tartar emetic, $\frac{1}{4}$ dram; saltpeter, 1 dram; ginger, 2 drams; linseed meal, 1 oz. Mix and form into a ball; repeat three or four times a day if necessary. In severe cases rub mustard paste on legs, breast and sides of chest, wrap warmly. Feed same as for colds, or linseed meal, cooked carrots, etc.

INFLAMMATION OF THE BOWELS.—SYMPTOMS: Hot mouth, extremities alternately hot and cold, pulse quick. He looks towards his flanks, rolls about, sweats profusely, belly hot and tender, legs and ears get very cold, pulse in time becomes weaker, mouth cold and he gets up and down. The first sign of this disease is when he sits on his haunches like a pig, gradually gets up and



Symptoms of Inflammation of the Bowels

walks around, then goes back to this position. **TREATMENT:** Give dose of pain-killer in "Colic," apply mustard plaster to abdomen, apply hot blankets and call a veterinary surgeon.

LOOSENESS OR SCOURING.—TREATMENT: Give 1 oz. Tormentil root powdered in $1\frac{1}{2}$ pints of milk four times a day.

LYMPHANGITIS.—SYMPTOMS: Swelling of the left hind leg. **TREATMENT:** Blanket warmly, give laxative, bathe leg in hot same water four times daily. After each bathing apply this lotion: Two oz. tincture of arnica, 1 pint water. Feed only bran mashes with plenty of salt. Give one powder on fourth day as follows: One and one-half oz. powdered gentian root, $\frac{3}{4}$ oz. bicarbonate of potass., 1 oz. iodide of potass. Make into five powders.

MOLDY OR MUSTY HAY OR GRAIN.—If your horse has eaten this give him a big dose of physic to remove it quickly as possible. This is important.

NASAL GLEET.—SYMPTOMS: Discharge from both nostrils of a whitish mucus matter. **TREATMENT:** Good food, moderate exercise, sponge nostrils with warm water and give tonic twice a day: Aloes, 6 oz.; pulverized nux vomica, 3 drams; flaxseed meal, 4 oz. Make into eight powders.

PINK-EYE.—SYMPTOMS: Loss of appetite, left eye closed, shivering, trembling, staggering gait and hanging head, watery discharge from eyes. **TREATMENT:** Blanket well and feed anything he will eat; add a little saltpeter to the water and give all he will drink. Give the following every eight hours: Three oz. gentian root, 2 oz. cinchona bark powdered, 1 oz. carb. ammonia, $\frac{1}{2}$ oz. nux vomica powder, 2 dr. digitalis leaves. Make into 8 balls. Bathe the throat with hot salt and water.

PNEUMONIA.—Same as inflammation of lungs. If the temperature goes to 103 call a doctor.

POLL-EVIL AND FISTULA.—This consists of sores on the body of the animal, particularly the withers. **TREATMENT:** Apply cold water from a hose for 15 minutes, lay on a few thicknesses of nice clean cotton cloth and keep it wet with the following lotion: One-half oz. sugar of lead, $\frac{1}{2}$ oz. muriate of ammonia, 2 oz. saltpeter, $\frac{1}{2}$ pint common salt, 1 gallon of cold water. If matter forms open it and treat it as an ordinary wound. This very simple cure for Poll-Evil is worth a trial: Burn corn cobs and fill the cavity to the bottom with the ashes, repeat until a cure is effected. Two or three times is said to be all that is required.

RINGWORM.—SYMPTOMS: Circular patches of parasites, very contagious. **TREATMENT:** Apply twice daily this salve: Five oz. soft soap, 5 oz. lard, $\frac{1}{2}$ oz. carbolic acid.

RHEUMATISM.—SYMPTOMS: Lameness, dullness, hot skin, swelling of joints, quickened pulse. **TREATMENT:** Ten to 15 drops of tincture of aconite four times daily.

SADDLE AND COLLAR GALLS.—Tumors on the shoulder. **TREATMENT:** Sponge the sore carefully with warm water and dry it thoroughly, then apply the following: Two oz. extract of lead, 2 oz. alcohol, 4 oz. soft water, 1 oz. spirits of sal-ammoniac, $\frac{1}{2}$ oz. copperas. Mix all and shake as used.

SCRATCHES, MUD FEVER AND CRACKED HEELS.—SYMPTOMS: Lameness, hollow of the pasterns swollen, red, hot and tender, with cracks which open at every step and sometimes bleed. **TREATMENT:** Horse must be kept in dry stall with plenty of straw on floor; the heels must be thoroughly cleaned and if painful apply linseed meal poultices for several days. After removing poultice wash well with castile soap and apply the following twice a day: Two oz. tincture of arnica, 2 oz. tincture of myrrh, 4 oz. glycerine. Mix thoroughly.

SORE LIPS.—TREATMENT: Two oz. tincture of myrrh, 1 oz. aloes. Apply three or four times a day.

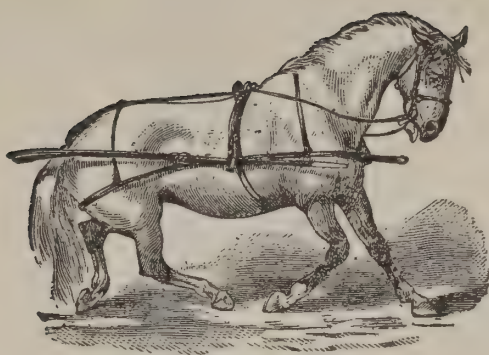
SORE MOUTH.—TREATMENT: Borax, 1 oz.; tannin, $\frac{1}{4}$ oz.; glycerine, 8 oz. Mix and apply three or four times a day with a swab.

SORE THROAT.—SYMPTOMS: Same as colds. **TREATMENT:** Same, with the addition of rubbing throat with mustard or any good counter-irritant.

SPAVIN AND RINGBONE.—The first indication is a stiff moving of the toe with a quick catching up of the leg when trotting; after warming up it disappears, but reappears much worse after driving and the blood is cooled off. He limps considerably and uses the hock less freely. Slight swelling of the hock joint. **TREATMENT:** Clip the hair from the part and three inches around it, and apply this blister: 1 oz. Spanish flies, $\frac{1}{2}$ oz. liquid tar, 2 oz. tar. Mix and rub on for ten minutes, leaving a thick application; wash this off with soap and warm water every 24 hours. When dry rub on grease or lard.

For a long standing and stubborn case this is the best remedy known; it is called "the \$500 Spavin Cure:" Iodine, 1 oz.; quicksilver, 1 oz.; corrosive sublimate, 1 oz. Rub the iodine and quicksilver together, then add the sublimate and enough lard to make a paste; rub together thoroughly. Shave off the hair the size of the bone enlargement, then grease all around it, but not where it is shaved off; this prevents the action of the medicine only upon the spavin. Now rub in as much of the paste as will lie on a nickel only each morning for four mornings only. In from seven to eight days the whole spavin will come out; then wash out the wounds with suds, soaking well for an hour or two, which removes the poisonous effects of the medicine and hastens the healing, which can be done by using green ointment.

SPINAL MENINGITIS.—Sometimes called Azoturia. **SYMPTOMS:** Horse suddenly stops, flanks blow and heave, sweat pours off of him, seems distressed and drops on his hind quarters, pulse 60 to 80. Urine is very dark in color. **TREATMENT:** Give quick cathartic, 7 drams of aloes; apply hot water cloths to loins, change every 15 minutes; cover these with dry blankets; give 20 drops of tincture of aconite every 2 hours. Rub legs



Spinal Meningitis

well and bandage; don't allow him to get up; if you can use a catheter do so at once and draw off the urine; turn horse from side to side two or three times a day.

SPLINT.—This is indicated by a hard, bony tumor on the inside of the shank bone of the foreleg. **TREATMENT:** Keep a steady stream of cold water on it for 15 minutes daily.

SPRAINS.—**SYMPTOMS:** Lameness, swelling, hot and tender; the limb is in a position that relaxes the sprained part. If extensive there is fever, refuses food, mouth is hot and pulse fast. **TREATMENT:** Give a laxative and keep bowels free; apply hot and cold water alternately every ten minutes for an hour. Next apply the following liniment: Two oz. tincture opium, 1 oz. chloroform, 1 oz. extract aconite, 7½ oz. soap liniment. Apply a snug bandage, not too tight.

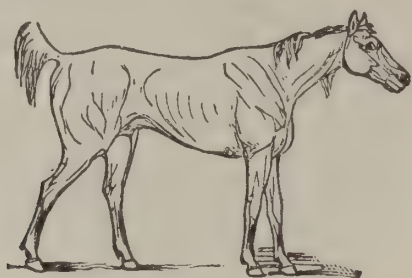
STAGGERS.—**SYMPTOMS:** Dullness of eye and unwillingness to move. **TREATMENT:** The horse should be bled from the neck, about ten quarts. If you don't know how to do this call Veterinary Doctor. Ten to 15 drops of tincture of aconite will be found beneficial.

STRANGLES OR DISTEMPER.—**SYMPTOMS:** Neck stiff and sore, enlargement between branches of the jaw, which is hot and tender; there is a slight discharge from nose at first, but as disease advances this changes to a thick yellow matter. It should burst in ten days, when recovery takes place slowly. **TREATMENT:** Blanket warmly, bathe legs and bandage them. See that bowels are open. Make poultice of wheat bran and warm vinegar and change often. Feed soft food with a little saltpeter in it.

SUNSTROKE.—**SYMPTOMS:** Stops suddenly and pants violently, head held low, eyes protrude, nostrils dilated, pupils of eyes smaller than natural, rapid breathing, pulse quick and weak. **TREATMENT:** It must be quick. Unharness and throw pails of cold water over the body, especially back of head, neck and spine; rub the skin hard with any rough cloth handy (repeat this). If possible inject 25 to 50 grains of quinine with hypodermic syringe.

SURFEIT.—**SYMPTOMS:** (Small pimples appearing suddenly and extending along the neck and sometimes over the whole body, most common in spring and summer. **TREATMENT:** Give a purgative at once, using 4 to 6 drams of Barbadoes aloes. Keep kidneys acting freely by giving the following for 5 days: Three drams nitrate of potass., 1 scruple camphor, 1 dram oil of juniper; add soft soap and linseed meal to form an ordinary sized ball.

SWEENY.—TREATMENT: Rub the shoulder thoroughly with the hand and soft soap to which a little salt has been added.



Suffering from Locked Jaw

TETANUS OR LOCKED JAW.—This is caused by a germ getting into some wound. As it often proves fatal, you had better call a Veterinary Surgeon quickly. If none is to be had open the wound and dress it with a strong carbolic acid solution. Repeat this many times a day. Place horse in a cool, dark box stall and keep him quiet. Inject alkaline solution of aloes. Get the bowels open early and keep them free. Give $\frac{1}{2}$ dram of belladonna every four hours. Feed him sloppy drinks of linseed tea, barley water, well boiled oatmeal gruel, etc.

URTICARIA AND NETTLE RASH.—SYMPTOMS: Pimples on the skin varying in size from a dime to fifty-cent piece. In 24 hours the whole body will be covered. Not serious. **TREATMENT:** Reduce the amount of grain food. Bathe body three times in 24 hours with strong salt and water. Give cathartic.

WIND-GALL.—**TREATMENT:** Bandage in a firm manner and soak well with cold water, applied frequently. If this does not dispel it use a blister.

WORMS.—**TREATMENT:** Calomel, 1 dram; tartar emetic, $\frac{1}{2}$ dram; linseed meal, 1 oz.; fenugreek, 1 oz.; mix and give in feed at night. Repeat three times. Follow six hours after the last powder with $1\frac{1}{2}$ pints of raw linseed oil.

GOOD GENERAL REMEDIES.

CATHARTIC CONDITION POWDER.—One oz. of each, alum, saltpeter, resin, copperas, ginger, aloes, gum myrrh, salts, salt and gamboge; mix thoroughly. Dose, one tablespoonful in bran twice daily. Don't feed any other grain for a few days, then give one dose a day with oats.

CONDITION POWDER.—One oz. of each fenugreek, cream of tartar, gentian, sulphur, saltpeter, resin, black antimony and ginger, all finely pulverized; add $\frac{1}{2}$ oz. cayenne and mix thoroughly. Dose, two teaspoonfuls once a day in the feed.

ENGLISH HORSE LINIMENT.—Strong. Two oz. each aqua ammonia, oil of turpentine and oil of spike, $1\frac{1}{2}$ oz. each oil of amber and sweet oil, 1 oz. oil of origanum; mix; good for lameness, poll-evils, etc. It will take off the hair, but not destroy it.

PHYSIC BALL.—Five drams of Barbadoes aloes, 1 dram tartrate of potassia, 2 drams each ginger and castile soap, 20 drops oil of peppermint; pulverize and make into one ball. Your horse should be prepared for this by two days' feeding of bran mash instead of oats and by giving plenty of water, not too cold. It will operate in 48 hours. If necessary repeat with half a dose.



CATTLE, THEIR DISEASES AND REMEDIES.

ABORTION, OR PREMATURE LABOR.—SYMPTOMS: The first sign is given by the animal being again in heat; in later stages a sudden dullness, loss of appetite and a yellow glairy discharge issues from the vagina, becoming thicker and darker. **What to do:** If the abortion is supposed to have happened in the pasture a careful search should be made for the fetus; if found, destroy and disinfect every part that has been touched, including the tail, quarters and vagina. **PREVENTION:** Avoid rich foods, exercise the animal and regulate the bowels and put on light diet.

ANEMIA.—SYMPTOMS: Loss of appetite, languor and rapid wasting away, pulse feeble and irregular, pale membranes and cold extremities. **TREATMENT:** Change the diet and give careful attention to seeing that patient gets good food; sprinkle salt over the fodder; give a mild cathartic. The following is a good tonic and should be continued daily for 10 days. Repeat after 3 days' rest. If covered with lice remove as marked in ox gadfly: One oz. gentian, 1 dram nuxvomica, 2 drams copperas. (This is one dose.) Put hot bags of salt across loins; mucilaginous drinks to be given freely; diuretics to be avoided.

ANTHRAX CHARBON OR BLACK LEG.—A very rapid and fatal disease. **SYMPTOMS:** Trembling, pulse rapid and very weak, eyes red, purple spots in mucous membrane, extremities are cold, breathing painful and urine becomes bloody. Death usually results in 12 to 24 hours. Cause is germs in contaminated water. Separate the herd at once, removing it to other fields, and direct your efforts to prevent any other animals contracting it. All stock should receive laxative doses and be closely watched. Better call in a Veterinary Surgeon, as the health of everyone is in danger.

CATARRH.—SYMPTOMS: Mucous membrane red and dry, thick discharge, eyelids swollen, high fever at times, loss of appetite, constipation, etc. **TREATMENT:** Put animal in good, clean, well ventilated stable, give mild laxative (a pint of linseed oil), steam the head in nosebag as follows: At the bottom of the bag put some sawdust and wet it with turpentine, then pour boiling water on this through a hole in the side. If fever is high give 8 drops of aconite in some water.

CHOKING.—SYMPTOMS: Hard breathing, great discharge of saliva. When animal drinks it returns through nose. If in the gullet between the bottom of the neck and stomach it cannot be detected; if in the pharynx it can be detected. **TREATMENT:** In the first event give 1 oz. sulphuric ether and $\frac{1}{4}$ pint linseed oil; this will lubricate the parts and the obstruction may pass down or be expelled by coughing. If it does not act promptly send for a doctor. In the second case grease the arm and endeavor to withdraw the obstruction by putting it down the throat.

CONSUMPTION.—SYMPTOMS: When the animal has a short, dry cough in the morning, or after exertion, this may be the first symptom of this disease; as it progresses it loses flesh, hair becomes dull, erect and matted and unhealthy in appearance; skin over the udders becomes very pale; cough grows more frequent and though good food and plenty of it is taken yet the animal grows poorer and poorer. In milch cows the quantity of milk diminishes. **TREATMENT:** Separate at once from the healthy ones, and apply the tuberculin test, mentioned below. If the animal has the disease, kill at once and bury the carcass deep in some out-of-the-way place. Put over the carcass a bag of quick-lime. Disinfect the premises thoroughly, no matter at what cost. After this is done test all animals on the farm with the tuberculin test.

THE TUBERCULIN TEST.—Discovered by Prof. Koch, of Germany. Tuberculin is a serum which if injected into a healthy animal will have very little if any effect, but if the animal is infected with tuberculosis a marked change in temperature takes place. It rises several degrees. Tuberculin is for sale at all drug stores. The disease cannot be cured; the animal is a menace to the farmer's family and to all the rest of his stock. It is your duty to kill and bury it.

COWPOX.—INDICATIONS: Eruptions on the teats and udder; later it appears on flanks, vulva, nose, mouth and eyes. Animal has fever. **TREATMENT:** Milk is unfit for use. Use a siphon to draw the milk; anoint the sores with carbolic ointment made of oil and carbolic acid.

CUTS AND WOUNDS.—Use same as for horses.



Beginning of Diarrhea

DIARRRHEA OR DYSENTERY.—TREATMENT: One oz. prepared chalk, 1 oz. bisuiphid of soda in water twice daily.

DIABETES.—SYMPTOMS: Copious discharge of clear urine, wasting of the body and weakness, ravenous appetite, excessive thirst, irregular bowels, staring coat. **TREATMENT:** Change diet at once; hay and fodder should be clean and good, also drinking water. Don't check urine flow too quickly. Tone up the digestive organs with good food and give the following: Twelve oz. Epsom salts, $\frac{1}{2}$ oz. taraxacum, 1 oz. gentian, 1 oz. ginger. Rub the last together to a powder, mix with salts and administer in a linseed mucilage.

ECZEMA.—Sores attended by itching; hair and skin are moist. **TREATMENT:** Change food; give purgative and alter the diet. Bathe the parts in solution of carbolic acid, $\frac{1}{2}$ oz. to 2 quarts of water, every night and morning.

FOOT AND MOUTH DISEASE.—SYMPTOMS: Mouth hot and tender; saliva dripping and partially chewed food is dropped; enlarged fetlocks, and painful vesicles appear on the mouth, which burst next day. In milch cows a swelling of the udder. **TREATMENT:** Feed soft, sloppy food; wash the mouth with mild solution



Mouth Disease

of alum; bathe the feet and apply mild astringent solutions. Apply the following to any ulcers: Acetate of lead, 1 oz.; carbolic acid, 1 oz.; water, 1 quart.

FOOT-ROT.—INDICATION: Inflamed condition of part of foot between the claws, causing lameness. **TREATMENT:** Clean with warm water and remove ragged bits of horn; smear with tar and bandage between claws and around foot. If much inflammation apply hot bran or linseed poultice; remove poultice and apply carbolic lotion.

GORED.—Make a small incision into the skin and replace the intestines; unite the injury to muscles by a suture and close outer wound by sewing; cover wound with compress of cotton batting saturated with antiseptic. Use 2 parts carbolic to 100 parts water.

HERNIA OR RUPTURE.—INDICATIONS: Part of bowels protruding through an unnatural opening. **TREATMENT:** Place the animal on its back and put back intestines in their place; draw the skin together with the fingers and clamp together with two pieces of wood or iron. In a few days remove clamp; sew together and heal as an ordinary wound.

HERPES.—Mild form of skin eruption in circular form. **TREATMENT:** Same as eczema.



Puncturing Bloated Animal

HOVEN OR BLOAT.—INDICATIONS: Back is arched and swelling on left side of belly feels like a drum when pressed upon; breathing is labored; nostrils distended; eyes bloodshot; mouth open and saliva driveling; animal in great distress. **TREATMENT:** Take the first sharp instrument you can find, clean it thoroughly and make an incision 3 inches long half way between the hip bone and the last rib. Then insert a quill or something to allow the gas to pass through. Give a dose of linseed oil and allow animal to rest.

HUSK.—SYMPTOMS: Convulsive coughing comes on in fits and nearly suffocates the animal; discharge from nostrils thick and free, masses of mucus being expelled. **TREATMENT:** Elevate the head of the calf slightly and pour 2 drams of the following into each nostril, allowing it to vaporize (repeat): Ether, 2 drams; chloroform, 2 drams; oil of turpentine, 2 drams; oil of amber, 2 drams. - Mix thoroughly.

INFLAMMATION OF THE BLADDER, OR CYSTITIS.—SYMPTOMS: Colicky pains; efforts to vomit; scanty urine; great uneasiness and turning nose towards the flank. In advanced stages feces become covered with blood and mucus. Perspiration is profuse. **TREATMENT:** Use catheter to evacuate the bladder; give large draughts of linseed tea with flour, water and a little gum arabic in water. Most cases of this kind need same treatment as inflammation of kidneys.



Udder Bandage

INFLAMMATION OF UDDER OR GARGET.—SYMPTOMS: Part becomes hard and enlarged; instead of milk, a thin, yellowish fluid is drawn from the teat, which becomes thicker, and curdled lumps also come. Restlessness, poor appetite and shivering. **TREATMENT:** Apply hot poultices of bran or linseed; give cathartic, about $\frac{1}{2}$ lb. Epsom salts, a teaspoonful of saltpeter in water or bran mash, night and morning. Milk very frequently.

INFLAMMATION OF THE WOMB.—SYMPTOMS: Pulse quick, breathing hurried; staggers and discharge of dark fluid; patient moans. **TREATMENT:** Isolate the animal and disinfect the premises. Cleanse the uterus and vagina by washing with a warm solution of carbolic acid, 1 part to 50 parts of water. Be careful to see that there are no scratches or sores on your own arms and cover them liberally with the following: One oz. carbolic acid, 10 oz. olive oil.

LEUCORRHEA OR "WHITES."—SYMPTOMS: Discharge from vulva of a white glutinous substance. **TREATMENT:** Syringe out vagina with tepid water. Use following as injection twice daily till discharge ceases: One-half oz. carbolic acid, 2 quarts water. Give 12 ozs. Epsom salts for cathartic and the following once a day in feed: Two drams copperas, $\frac{1}{2}$ oz. gentian, $\frac{1}{2}$ oz. ginger.



Lumpy Jaw

LUMPY JAW.—A small round lump under the jaw, which gradually enlarges. Later on it becomes inflamed and ulcerated and involves the bones. **TREATMENT:** Give $1\frac{1}{2}$ drams of iodide of potassium daily in 1 pint of water for eight days. For local treatment make an incision with a sharp instrument through the skin covering the swelling to the bone and inject tincture of iodine with a common syringe. This will kill the parasites and check the swelling.

MAW-BOUND OR IMPACTION OF THE RUMEN.—SYMPTOMS develop slowly. Dullness and distress and enlargement of the rumen; bowels confined; later on the rumen becomes lumpy; later on it resembles hoven and the animal exhibits pain when pressed on the left side. **TREATMENT:** Inject 10 quarts of warm water into the rectum and give a large dose of linseed oil, then

call a Veterinary Doctor. While waiting apply four blankets dipped in hot water. If an operation is necessary a qualified doctor should do it.

OX GADFLY.—Examine your cattle every spring and squeeze out and destroy the grubs found in their backs, using a knife when necessary to remove every particle. Then rub the back with green tar before turning them out, which will keep away the flies.

PARTURIENT APOPLEXY.—Caused by large quantities of blood being retained in the animal's system, which produces congestion and distension and, by pressure on the brain and nerve-centers, which causes paralysis of the parts connected with the generative organs. It is brought on by close confinement and stimulating food without allowing proper exercise and fresh air. **PREVENTION:** This is given because it is more important than treatment. For heavy milkers give a very spare diet for a week before calving and continue for four days after; give a strong cathartic two days before and one after calving. See that there is plenty of fresh, cool air, and milk three times daily, both before and after. **TREATMENT:** Apply ice water, or ice cold bags, to the head, around the horns; friction to the limbs, and give a strong purgative. Send for a Veterinary Doctor.

PLETHORA.—**SYMPTOMS:** Unnatural redness of mucous membranes; fever appears and disappears at first, but later on a high fever ensues and congestion and inflammation follows. **TREATMENT:** Give 4 oz. of Epsom salts every 6 hours; repeat for 6 times; restrict the diet; don't bleed.

PLEURO-PNEUMONIA.—**SYMPTOMS:** Rising temperature, 103 to 106 degrees; loss of appetite; hard, dry cough; dry, hot nose and mouth; highly colored urine and tenderness on pressure between ribs over the lungs. In a few days skin becomes yellow, pulse 80 to 100, and intense pain causes deep moans; nose and neck extended in straight line; back arched and hind legs drawn up under the body. **TREATMENT:** Your only safe course is to kill the animal affected and thoroughly disinfect all stables, sheds, etc.

) PNEUMONIA.—**SYMPTOMS:** Shivering; staring coat; nose and skin hot and dry; breathing short and rapid. **TREATMENT:** Place your ear on the chest of a healthy animal and listen to it breathing; then go to the sick one and if there is a strange wheezing noise when it breathes send for a Veterinary Doctor. In the meantime apply hot water fomentations by dipping four blankets in very hot water and putting around its body and a dry one on the outside. Repeat three or four times. Give $\frac{1}{2}$ pint of whisky or brandy in a quart of gruel twice daily.

RHEUMATISM.—**SYMPTOMS:** Stiffness of joints, rigidity of spine, hidebound, staring coat, constipation, highly colored urine and swelling. **TREATMENT:** One-half lb. Epsom salts for laxative; generous diet; keep warm. Give the following three times daily in a pint of water or gruel: One oz. salicylic acid, 1 oz. bicarbonate of soda.

RINGWORM.—**SYMPTOMS:** A circular patch of scaly crusts which breaks out in from 8 to 14 days. **TREATMENT:** Separate all animals affected; remove and destroy crusts; clean the parts with soap and warm water and paint with the following mixture: Carbolic acid, 1 part; acetic acid, 20 parts.

SORE MOUTH.—Wash carefully with warm water and apply the following: Two drams powdered alum, 1 oz. honey, 1 pint of water.

SORE THROAT OR LARYNGITIS.—SYMPTOMS: Difficult swallowing and a hard cough; loss of appetite; cud not chewed and flow of saliva; pressure on throat gives pain; swelling. **TREATMENT:** Apply a bran poultice. Give $\frac{1}{2}$ oz. saltpeter in water night and morning. Keep bowels open. Feed soft food.

SORE TEATS.—TREATMENT: Wash in warm water and apply this ointment: Two oz. vaseline, 1 dram alum. If milking painful draw off with teat siphon.

TETANUS OR LOCKJAW.—SYMPTOMS: Declines food; general stiffness; muscles become rigid; mouth is extended and jaws cannot be opened; tail straightened slightly. Cows and calves usually lie down from the first. **TREATMENT:** Remove to a secluded, darkened stable and apply hot poultices, etc., and give a purgative if the animal can swallow; if not, use injection of warm water. If it lives beyond seventh day it will probably recover.

TEXAS FEVER.—This is a blood disease and is not infectious from one animal to another. It is infectious indirectly through pasture, roads, stables, cars, etc., as it is caused by ticks on the cattle, which they leave behind. A very dangerous disease, with fatal results usually. If it is in your neighborhood combine with your neighbors to stamp it out. It is prevention, not treatment, that is necessary.

TRACHEOTOMY.—This is an operation of opening the windpipe to prevent suffocation. If you can't get a Veterinary Surgeon, you may be able to save your animal by following these directions: Provide yourself with a pair of scissors, a hook and a bent tin tube; have someone hold the animal and cut the hair off; fold the skin in your hand and insert the scissors, cutting downwards three inches; use the hook to hold it open, and, separating the muscles, the windpipe is exposed; let your assistant hold open the wound and you yourself grasp the windpipe and cut a hole to let in the tube; remove and cleanse the tube daily. When the obstruction is removed take out tube and sew up like an ordinary wound.

CALVES AND THEIR TREATMENT.—If the cow does not clean her calf by licking it sprinkle a little salt on it and she will do so. If the navel string bleeds tie it with a stout, clean cord. It should be allowed the first milk of the mother so that everything will be regulated in the natural way.

COLIC.—SYMPTOMS: Watery discharge from the bowels; loss of appetite; severe griping pains; sometimes diarrhea. **TREATMENT:** Give promptly a mixture of one egg, wheat flour and linseed oil. If not checked give following in a little gruel: Two drams laudanum, 1 dram essence of ginger.

CROUP.—SYMPTOMS: Sudden and bad sore throat with hard cough; running from nose, and difficulty in breathing; fever runs very high. **TREATMENT:** Keep in warm stable; give dose of $\frac{1}{2}$ lb. Epsom salts; put saltpeter in drinking water; apply bag filled with ice to the throat for five minutes every ten minutes.

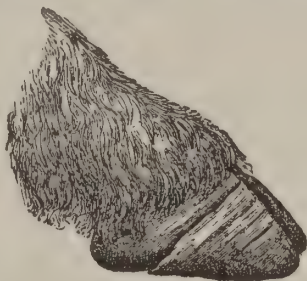
SCOURING OR DIARRHEA IN CALVES.—TREATMENT: Change the diet of the mother and give the patient a dose of this: Three oz. castor oil and 1 teaspoonful of ginger in some wheaten gruel.

SHEEP, DISEASES AND CURES.

BLOODY FLUX OR "CLING."—Cut off excess wool from tail and thighs and keep parts clean, and apply tar oil to keep off flies. Give 2 oz. of linsed oil as purgative; give light tonic: Powdered opium, 2 gr.;

powdered ginger, 1 dram; powdered gentian, $\frac{1}{2}$ dram. Mix with linseed tea. Feed mashies, gruel and dry grass. **CONSTIPATION.—TREATMENT:** Give lambs two or three spoonfuls of hogs' lard. For sheep use injection of hot milk with enough molasses to make it brown in color; inject 3 oz. at a time with a syringe. After injection hold animal up by hind legs with forefeet on floor. Give 2 oz. Epsom salts in 6 oz. gruel.

DIARRHEA OR SCOURING.—TREATMENT: Take up and place in good shelter; put on light diet, easily digested. Give the following: One oz. prepared chalk, 4 drams Catechu, 2 drams ginger, $\frac{1}{2}$ oz. opium; mix with $\frac{1}{2}$ part peppermint and water; shake well. Dose for sheep, two tablespoonfuls night and morning; for lambs, half as much.



Foot-Rot

FOOT-ROT.—Watch your sheep carefully for this. If there is any inflammation between the claws and skin connection clean this thoroughly by washing with carbolic solution, then cover with tar. If a severe case wash with warm water and remove all bits of horn; apply a hot linseed poultice. If abscess formed open it and then wash with carbolic solution. Apply this ointment: Pine tar, 1 qt.; linseed oil, 1 pt.; verdigris, $\frac{1}{2}$ lb.; powdered blue vitriol, 1 lb.

GID-HYDATID ON THE BRAIN, ETC.—SYMPTOMS: Patient keeps apart from flock, walks in staggering manner and looks at water in ditch until it falls. **TREATMENT:** The real cure lies in prevention. For those affected give powdered areca-nut, half a teaspoonful in milk, two or three times a day. Follow this by a dose of castor oil, 2 oz.

HOVEN OR TYMPANITES OF THE RUMEN.—Treat as for cattle. For stimulant give 2 oz. of whisky in water, feed light of bran or oatmeal. Give the following: Sulphate of soda, 1 dram; powdered ginger, 1 dram; water, 4 oz.; allow to dissolve. Give one tablespoonful twice a day.

INFLUENZA.—SYMPTOMS: Watery eyes, sneezing, watery discharge; mucus about the eyes and hardens on lids; animal off the cud and hangs head. As the disease progresses it becomes more severe; cough is painful; mucus discharge becomes bloody; stupor follows. **TREATMENT:** If taken early give thymo-cresol, $1\frac{1}{2}$ oz.; mix with 1 gallon of soft water. Dose, wine-glassful twice daily.

KIDNEY DISEASES.—The indications of this are only to be found by examining urine with microscope. Get a pint bottle and have Veterinary Surgeon examine it.

LIVER-ROT OR FLUKES.—In healthy sheep the membrane which lines the eyelids in front is bright red; when affected with rot it is pale and the eyeball is yellowish. When this sign appears change the diet and give the following: Linseed cakes, 1 bushel; pea meal, 1 bushel; salt, 4 lbs.; anise-seed, 4 lbs.; sulphate of iron, 1 lb.; mix thoroughly and give each sheep daily $\frac{1}{2}$ pint.



Liver-Rot

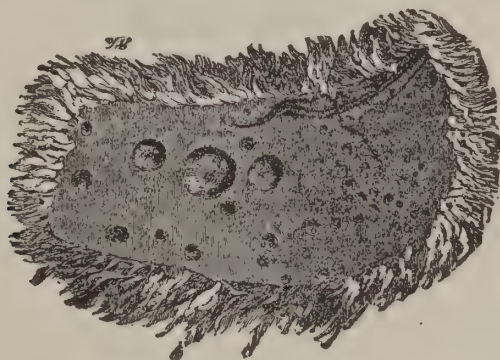


Indications of Sickness

MAGGOTS.—These will be found in wounds if not properly attended to; also found on dirty sheep. Remove all wool covered with filth; wash carefully, and if any maggots found apply crude petroleum.

NASAL-GLEET, GRUB IN THE HEAD.—**SYMPTOMS:** Discharge from the nostrils. The sheep stamp violently with the forefeet and run their heads under each other's bellies. Rub whale oil on the nose just before sunset. If the flock are suffering call in a Veterinary Surgeon and stamp it out.

SCAB.—TREATMENT: Fifty gallons of water, 20 lbs. of strong tobacco, 10 lbs. of sulphur. Heat to temperature of 100 degrees and bathe. Repeat in eight days.



Pox Marks—Sheep

SMALL-POX.—Variola. Very contagious. **SYMPTOMS:** The bare skin under the arm pits shows first indication by eruption; pimples surrounded by red ring appear and in three days come to a head, white in appearance. At this stage collect the matter for inoculation. The symptoms decrease now and the sheep improve. The pimples dry up and form scales, which fall off and leave pits or pox marks. If these pimples run together or become ulcers the sheep almost invariably die. In this event it should be killed and buried in deep pit. Don't save hide or wool. Inoculate the other affected sheep with the matter taken as above. This is the only cure. Keep the recovered cases isolated from flock for three weeks.

TAPEWORMS AND ROUND WORMS.—**SYMPTOMS:** When a number of sheep suffer from diarrhea at one time and much mucus is passed it is almost sure to be caused by worms. It might be well to kill one of them to find out the cause. **TREATMENT:** Give purgative of linseed oil and the following twice a week for two weeks: Two oz. linseed oil, 1 oz. turpentine. For preventive give each sheep 3 drams of tansy.

THRUSH OR APHTHA.—**INDICATIONS:** Small ulcers on tongue and in mouth. **TREATMENT:** Apply two or three times daily: Tinct. of myrrh, 1 oz.; borax, 1 oz.; water, 1 qt. Put niter mixed with common salt in feeding troughs and allow them to lick it when they will.

SWINE AND THEIR DISEASES.

APOPLEXY.—SYMPTOMS: Animal becomes stupid; falls down and stretches itself; is apparently lifeless. **TREATMENT:** Dash cold water over it from a bucket, particularly on the head. Inject this: Four oz. Epsom salts, 2 drops oil of turpentine, $\frac{1}{2}$ pint soap suds. When animal is better give 4 oz. Epsom salts every 3 hours. Feed lightly for a week. Don't bleed.

COUGHS AND COLDS.—SYMPTOMS: Loss of appetite; heaving of flanks and severe cough. **TREATMENT:** Rub the throat with dry mustard; dissolve a pint of tar in a gallon of water and give one quart; repeat every morning till cured.

DIARRHEA OR SCOURS.—If the milk of the sow has caused it in the young pigs, change her diet and keep the little ones in a clean, warm pen; scald the feeding troughs with boiling water. One-fourth oz. bicarbonate of soda and a little sulphur mixed with food will aid the sow greatly.

EPILEPSY OR STAGGERS.—SYMPTOMS: Very restless day and night; eyes red and inflamed; pulse quick; bowels constipated; walks as if blind. **TREATMENT:** Dash bucketfuls of cold water over the body; inject the following: Ten oz. water, 6 oz. Glauber's salts, 1 teaspoonful spirits of turpentine. Rub the back of neck and under ears with turpentine.

FOOT AND MOUTH DISEASE.—Use the same treatment as given for sheep.

HOG CHOLERA.—Write the Department of Agriculture, Washington, D. C., for their bulletin on this disease. The animals die very suddenly, but a close observer will see the following symptoms or some of them in every case: Shivering, loss of appetite; temperature rises to 105 to 106; animal is stupid and tries to hide in the bedding; diarrhea sets in, abundant and exhausting; eyes at first watery, then secretion becomes thicker and yellow and gums lids together; breathing becomes more and more rapid; skin is red over abdomen, inner surface of the limbs, etc.; this color changes to a dark purple; animal grows weak; back is arched and abdomen drawn up; weakness and exhaustion, then death. **TREATMENT:** One lb. wood charcoal, 1 lb. sulphur, 2 lbs. sodium chlorid, 2 lbs. sodium hyposulphite, 1 lb. sodium sulphite, 1 lb. antimony sulphid; well pulverized and thoroughly mixed. Dose, tablespoonful for each 200 lbs. weight of hog once a day. Feed one soft feed a day, stirring in this medicine. If hog too sick to feed, drench slowly.

PNEUMONIA.—SYMPTOMS: Loss of appetite, shivering, severe cough, hard and quick breathing. **TREATMENT:** Remove to warm pen; clean thoroughly, give plenty fresh, pure water and nutritious food. Give two drops each of saltpeter and bisulphite of soda in a pint of gruel every morning. Put a mustard plaster on the chest. If constipated inject warm soap suds. When inflammation has gone give $\frac{1}{2}$ drop of sal ammoniac three times a day for four days.

WORMS.—INDICATIONS: Weakness of loins and hind quarters; eyes sunken and pale; excrement hard and highly colored; dullness. The pig wastes and in advanced stages has convulsions. **TREATMENT:** Give clean water and food; give a strong purgative at once. Night and morning for a week give following: One and one-half tablespoonful of aloes, 1 teaspoonful of copperas. Rub hot turpentine across loins and small of back, and cover with a cloth.

WHEAT

FALL.....Acres SPRING.....Acres

Date of Seeding..... Date of Harvesting.....

Number of Bushels threshed, FALL -----

Number of Bushels threshed, SPRING.....

TOTAL.....

Number of Bushels to Acre, FALL -----

Number of Bushels to Acre, SPRING -----

Cost of Seed, \$----- Cost of Labor-----

Cost of Threshing - - \$_____

[illegible]

3

Number of acres.....

Date of Seeding..... Date of Harvesting.....

Number of Bushels threshed.....

Number of Bushels to the Acre.....

Cost of Seed, \$----- Cost of Labor, \$-----.

Cost of Threshing, - - \$.....

[illegible]

OATS

Number of acres.....

Date of Seeding_____ Date of Harvesting_____

Number of Bushels threshed.....

Number of Bushels to the Acre.....

Cost of Seed, \$----- Cost of Labor, \$-----

Cost of Threshing, - - \$ _____

[illegible]

PEAS *P*

Date of Seeding..... Date of Harvesting.....
 Cost of Seed, \$..... Cost of Labor, \$.....
 Number of Acres, - - -

DATE.	MARKETED.	PRICE.	AMOUNT.
	Bushels at.....		
	“ “		
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	“ “		
	“ “		
	“ “		
	“ “		
	“ “		
	“ “		

BARLEY

Date of Seeding..... Date of Harvesting.....
 Cost of Seed, \$..... Cost of Labor, \$.....
 Number of Acres, - - -

DATE.	MARKETED.	PRICE.	AMOUNT.
	Bushels at.....		
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RYE

Date of Seeding..... Date of Harvesting.....
 Cost of Seed, \$.....Cost of Labor, \$.....
 Number of Acres, - - -

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	Bushels at.....		
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BUCKWHEAT

Date of Seeding..... Date of Harvesting.....
 Cost of Seed, \$.....Cost of Labor, \$.....
 Number of Acres, - - -

DATE.	MARKETED.	PRICE.	AMOUNT.
	Bushels at.....		
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POTATOES

Date of Seeding..... Date of Harvesting.....
 Cost of Seed, \$..... Cost of Labor, \$.....
 Number of Acres, - - -

DATE.	MARKETED.	PRICE.	AMOUNT.
	Bushels at.....		
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TURNIPS

Date of Seeding..... Date of Harvesting.....
 Cost of Seed, \$..... Cost of Labor, \$.....
 Number of Acres, - - -

DATE.	MARKETED.	PRICE.	AMOUNT.
	Bushels at.....		
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CABBAGE

Cost of Labor,	-	-	-	-	-	\$	-----
Cost of Seed or Plants,	-	-	-	-	-	\$	-----
Number of Acres,	-	-	-	-	-		-----

DATE.	MARKETED.	PRICE.	AMOUNT.

TOMATOES

Cost of Labor,	-	-	-	-	-	\$	-----
Cost of Seed or Plants,	-	-	-	-	-	\$	-----
Number of Acres,	-	-	-	-	-		-----

[illegible]

CARROTS

Cost of Seed, \$ Cost of Labor, \$

Number of Acres, - - - -

DATE.	MARKETED.	PRICE.	AMOUNT.
	Bushels at		
	“ “		
	“ “		
	“ “		
	“ “		
	“ “		
	“ “		

BEETS

Cost of Seed, \$ Cost of Labor, \$

Number of Acres, - - - -

DATE.	MARKETED.	PRICE.	AMOUNT.

MANGELS

Cost of Seed, \$ Cost of Labor, \$

Number of Acres, - - - -

DATE.	MARKETED.	PRICE.	AMOUNT.

BEANS

Cost of Seed, - - - - - \$-----
 Cost of Labor, - - - - - \$-----
 Number of Acres, - - - - - -----

DATE.	MARKETED.	PRICE.	AMOTNT.
	-----Bushels at-----		
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ONIONS

Cost of Seed, - - - - - \$-----
 Cost of Labor, - - - - - \$-----
 Number of Acres, - - - - - -----

DATE.	MARKETED.	PRICE.	AMOUNT.
	-----Bushels at-----		
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	66	66	
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	66	66	
	66	66	
	66	66	
	66	66	

of the District of Columbia

40

5

DATE.	MARKETED.	PRICE.	AMOUNT.
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75

MILK DAILY RECORD

	JAN.	FEB.	MARCH	APRIL	MAY	JUNE
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MILK DAILY RECORD

	JULY	AUG.	SEPT.	OCT.	NOV.	DEC.
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Total						

CREAM DAILY RECORD

	JAN.	FEB.	MARCH	APRIL	MAY	JUNE
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CREAM DAILY RECORD

	JULY	AUG.	SEPT.	OCT.	NOV.	DEC.
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Total						

BUTTER

[illegible]

CHEESE

[illegible]

EGGS

[illegible]

POULTRY

[illegible]

TRANSACTIONS IN HORSES AND CATTLE

WOOD AND TIMBER

DATE.	MARKETED.	PRICE.	AMOUNT.

LABOR AND WAGES

\$ cts.

Jan.			
Feb.			
March			
April			
May			
June			

LABOR AND WAGES

\$ cts.

July			
August			
Sept.			
Oct.			
Nov.			
Dec.			

RECEIPTS

\$ Cts.

[illegible]

EXPENDITURE

\$ Cts.

5280

528.0

528.

175.

2640 /

3696

528

92400

RECEIPTS

\$ Cts.

23 ft 6" for wrench
17 " " " return

4 - 4" X 5 1/8 machine bolt

lace leather

belt punch

oil can.

18

17

17

17

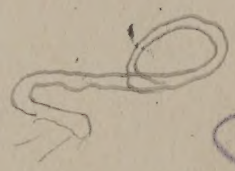
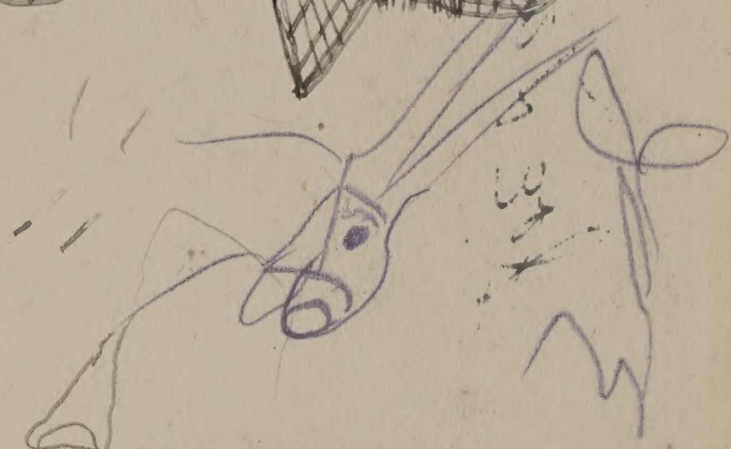
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